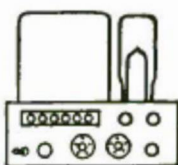
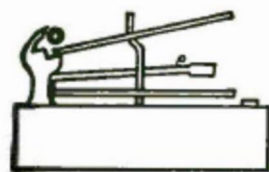


EQUIPMENT



PROFILE

McINTOSH FM-STEREO TUNER, MODEL MR 71 and SOLID-STATE STEREO PREAMP, MODEL C 24

The MR 71 FM-Stereo Tuner

In February, 1964, we profiled the McIntosh MR 67 Stereo Tuner, and during the course of the description it was stated that it "is unexcelled by any other tuner we have had occasion to test in recent years." This is no longer true. It is excelled by the MR 71. Of course, it should be, since the MR 71 is essentially the same as its predecessor (in time, since both are now in the line) with minor improvements which are the result of continuing development work.

When one reads the specifications, one finds comparatively little difference between the two models with respect to performance. The MR 71 has a slightly better capture ratio of 1.5 as against 1.7; it employs five i.f. stages instead of four; it has 8 db more suppression of the multiplex products (primarily because of the new, extremely sharp SCA filter), different tuning indication, automatic stereo-mono switching, and three extra pounds of weight. It still uses a 6DS4 Nuvistor combined with $\frac{1}{2}$ of a 12AT7 as a cascode front end, albeit it does use top-end inductor coupling between the first two tuned circuits instead of an inductive link. The principal differences begin with the fourth i.f./first limiter which feeds a first discriminator used to control the muting circuit which acts upon the fifth i.f./second limiter so

as to be faster acting when one tunes off a station. The second limiter feeds the signal discriminator in the usual fashion. The multipath distortion indicator now serves only one purpose—meters indicate signal strength and tuning—and does not have to be switched. The recovered composite signal feeds the MX amplifier, with 19 kc appearing in its plate circuit while the audio appears at the cathode, whence it goes through the new SCA filter and thence to the decoder.

The SCA filter is undoubtedly a very complicated device, since its response curve drops at the rate of 275 db per octave beginning at 54 kc, reaching an attenuation of 50 db at 60 kc and remaining flat at -50 db to beyond 74 db where it rises some 10 or 15 db to about 85 kc before falling off gradually. This filter was computer-designed, has no adjustments, and effectively eliminates any SCA interference without affecting the flat transmission of the stereo subcarrier up to the limit at 53 kc. Because of its sharpness, this filter remains in the circuit at all times, thus eliminating one more switching operation required on some tuners. The decoder circuitry remains the same, and the MR 71 retains the dual outputs—one of "fixed" level and one variable, controlled from the front panel.

The 19-kc pilot signal, aided by some audio derived from the first discriminator, actuates the stereo indicator light amplifier which, in turn, drives a transistor which actually turns on the indi-

cator in the presence of a stereo signal. A second light in parallel with the first illuminates a Raysistor in the cathode circuit of the 38-kc oscillator, turning it on or off without any audible sound and without any attention from the user. A front-panel stereo-mono switch disables the switching circuit when it is desired to receive mono exclusively, although the indicator light still functions. The remaining front-panel controls are a variable afc and muting on/off. Sliding the whole chassis forward in its Panloc mounting (so glowingly described in the profile of the MR 67) provides access to a slide switch which controls panel light brightness.

The rear apron mounts the 300-ohm antenna terminals, 75-ohm coaxial antenna jack, the "fixed" and front-panel-varied audio output phono jacks, the output-adjusting dual pot for the "fixed" outputs, the muting adjustment control, power fuse, a.c. receptacle, and one of the two test points to which the MI 2 Multipath/Tuning Indicator accessory can be connected (the other connecting point is on the top of the chassis). This device employs a cathode-ray tube in an elaborate circuit to permit visual monitoring of stereo signals and multipath interference.

To the casual observer, the MR 71 performs as well as the MR 67, which is saying a lot. In every category—sensitivity, hum, frequency response, channel separation—there does not appear to be a great difference. It is more effective, perhaps, in freedom from noise, but beyond that there is very little difference which is apparent to the ear—and not very much on the test bench. Where it does excel, however—and this is apparent to even the non-technical listener—is in the ease of operation. In the profile of the MR 67, credit was given to the unusually high quality of components and construction as being the main factor in making the MR 67 a "superb" product. If there were such a word, we would only say that the MR 71 is "superber." Beside that, it is most attractive with its greenish illumination of dial scales and meters, the green fluorescence of the multipath indicator tube, and the red stereo indicator light. Even the distaff side will thrill over it.

It would be unfair not to mention the high quality of the Owner's Manual which accompanies the MR 71. It is handsomely executed from the graphic arts standpoint—good paper, good printing and so on—it has a table of contents on the front, covers technical description, installation, and operation clearly and simply, and is well illustrated. Three pages of FM Station Log are provided in the back, with spaces for frequency, logging scale, call letters, city and state, antenna direction, and remarks. Last but not least, in our esti-



Fig. 1. McIntosh
FM-Stereo Tuner,
Model MR71.

mation, is the inclusion of a schematic. Though all audiofans do not do their own servicing, it is not likely that any technician called in would have a schematic at hand, and if the owner can supply one, so much the better. We feel that a schematic should *always* be included with any hi fi tuner, amplifier, or receiver.