

# McIntosh

## MULTIPLEX ADAPTER

# MA6

### GENERAL DESCRIPTION

Use the McIntosh MA6 Multiplex Adapter to hear FM stereo from the MR66 FM Tuner. Careful, thorough engineering and superior designing eliminate the need for critical adjustment in the field.

In multiplex broadcasting, both left and right channels of a stereo program are transmitted over one FM station. The simple broadcasting of left channel and right channel needed one basic improvement. Those who did not have multiplex equipment would only receive half a program. A new broadcast technique called matrixing was developed to overcome this problem. In the new technique the left and right programs (L + R) are added electronically. The L + R signal is centered on a portion of the station's assigned spectrum called the main carrier. At the same time the left and right programs are subtracted (L - R).

The L—R signal is centered on another portion of the station's assigned spectrum called the sub-carrier. (The FCC also permits the stations, if they choose, to use another part of the assigned spectrum for non stereo music transmission. This additional program is called SCA, sub-carrier authorization. The multiplex unit electronically protects your stereo listening by preventing SCA from interfering.)

In a FM tuner receiving multiplex, the signals are again matrixed. The matrixing in the tuner separates the two channels so that we hear the broadcast as stereo. The process written algebraically is:  $(L + R) + (L - R) = 2L$ ;  $(L + R) - (L - R) = 2R$ . In a FM tuner not equipped with a multiplex decoder, the broadcast is heard as L + R, a complete monophonic program.

### TECHNICAL DESCRIPTION

The MA6 Multiplex Adapter uses a special McIntosh developed detecting circuit. One of the advantages of this circuit is the elimination of the critical adjustments necessary with commonly used matrixing methods.

A temperature stabilized 19KC amplifier locks-in a highly stable push-pull synchronous oscillator. Apart from other advantages this

method provides greatest noise immunity. Balanced detectors cancel 19KC and 38KC components in the output and assure low noise and distortion.

A three-section sharp cut-off filter rejects SCA interference and reduces susceptibility to spurious signals.

### SPECIFICATIONS

**Weight:** 1 lb. 2 oz.

**Shipping Weight:** 1 lb. 10 oz.

**Dimensions:** 2<sup>1</sup>/<sub>8</sub> inches wide; 3<sup>3</sup>/<sub>4</sub> inches high  
8<sup>3</sup>/<sub>16</sub> inches long.

**Hum Level:** Better than 60db below 100% stereo modulation.

**Distortion:** Less than 0.3% (Multiplex Unit only).

**Suppression of pilot (19KC) and Carrier (38KC):** Greater than 40db below 100% modulation.

