

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: 2¹/₈ inches wide; 3³/₄ inches high
8³/₁₆ 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.

INSTALLATION

The MA6 can be conveniently mounted to a shelf or cabinet. Four wood screws are supplied with the MA6 to secure it.

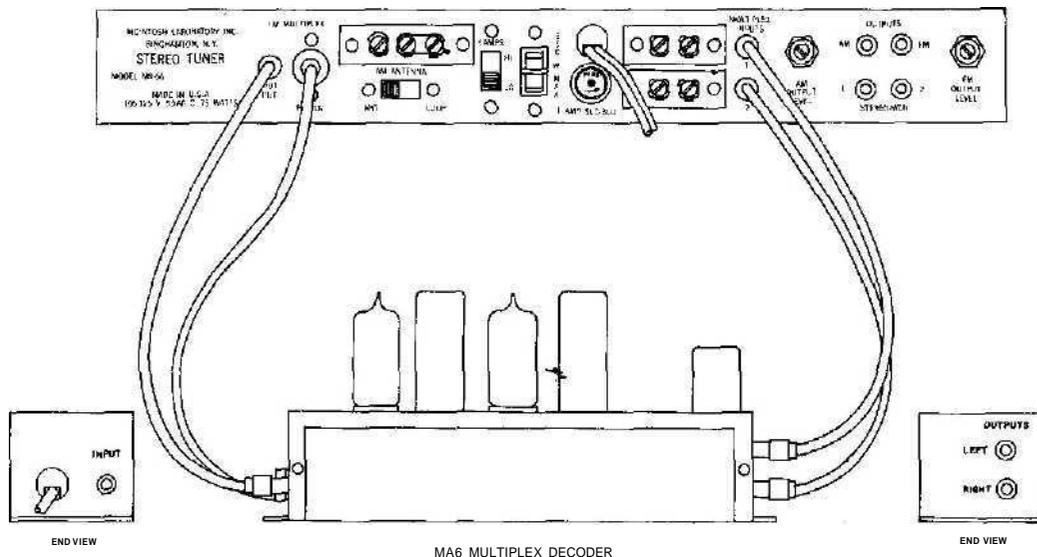


Figure 1. MA6 Multiplex Adapter Connected to the MR66 Back Panel Showing Multiplex Adapter End View.

CONNECTING

The MA6 multiplex adapter power cable is the gray cable attached to the multiplex adapter chassis. On the end of this cable is a five-prong plug. Align the prongs of the plug with the power receptacle marked FM MULTIPLEX POWER on the back panel of the MR66 stereo tuner and plug the connector in.

Three 24 inch gray cables are supplied with the MA6. Use these cables to complete the connection of the MA6 to the MR66 Stereo Tuner.

Connect the cables as follows:

- 1) Connect a cable between the receptacle marked INPUT on the MA6 chassis to the receptacle marked FM MULTIPLEX OUTPUT on the back panel of the MR66.
- 2) Connect a cable between the receptacle marked OUTPUT 1 on the MA6 chassis to the receptacle marked MULTIPLEX INPUTS 1 on the back panel of the MR66.
- 3) Connect a cable between the receptacle marked OUTPUT 2 on the MA6 chassis to the receptacle marked MULTIPLEX INPUT 2 on the back panel of the MR66.

IMPORTANT

The numbers 1 and 2 on the back panel of the MR66 designate the left and right channels, respectively.

ANTENNA CONSIDERATIONS

For the satisfactory operation of a multiplex tuner, more signal is needed than for monophonic reception. Monophonic installations that were satisfactory on an indoor antenna may require the use of an outdoor antenna for equivalent results. Satisfactory stereo requires about 10 times as much signal from the antenna.

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