

CIRCUIT DESCRIPTION

RF Section—The precision tuning capacitor has a "linear frequency" characteristic so that station calibrations appear evenly and accurately spaced along a 10" tuning dial. The RF stages are balanced-tuned throughout. An important feature is the radar-type, balanced-bridge diode mixer. **IF Section**—The unique MARANTZ IF circuit is based on the development of an "18-pole" phase-linear filter. The ideal characteristics of the filter passband permit performance improvements which are unobtainable with conventional coupled circuits. Phase-linearity of the 220 kc passband eliminates a major source of high-frequency distortion and loss of separation. 108 db/octave cutoff slopes makes the Model 10B the most selective FM tuner in existence. Strong signals have no deteriorating effect on passband characteristics. IF alignment is permanent, being unaffected by tube changes or aging. **Limiters & Discriminator**—There are 9 limiters in the Model 10B using matched pairs of silicon planar diodes. Each IF stage is self-limiting, preventing overload on strong signals, and eliminating the usual need for AGC circuits. Quieting on weak signals is close to the theoretical threshold, with ultimate quieting well in excess of 70 db. The discriminator circuit is extremely linear, ensuring low distortion through the subchannel range. **Multiplex**—The highly sophisticated MARANTZ circuit permits the inclusion of phase correction to maintain proper phase/amplitude relationships. This allows the use of an extremely effective SCA rejection filter without the usual loss of separation at high frequencies. Separation is well in excess of 30 db to 15 kc. The output filter circuit provides very sharp attenuation of residual subchannel components above the audio range, eliminating noise and interference from SCA. Precision-gapped ferrite cup-cores or precision toroidal coils are used for all filters. Automatic stereo switching and inter-channel muting are both accomplished by means of ingenious electronically triggered photo-electric circuits. **Multipath-Tuning Indicator**—In March 1962 MARANTZ introduced the concept of using an oscilloscope tube as a multipath and tuning indicator in the early prototypes of the Model 10. As each station is tuned, its correct center position on the passband is clearly displayed. Simultaneously, the presence of multipath becomes visible, making it quite easy to readjust the antenna for best results. A panel switch permits test display of the left and right FM channels, or external signals from tape recorders, discs, etc.



25-15 Broadway, Long Island City 6, N.Y.

A SUBSIDIARY OF SUPERSCOPE INC.

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TECHNICAL SPECIFICATIONS

I.H.F. Sensitivity — 2 uv or better.

Quieting Slope — 40 db @ 2 uv; 55 db @ 3.5 uv; 70 db @ 25 uv.

6 IF stages, Each with 3-pole phase-linear band-pass filter. IF Bandwidth, 220 KC. Cutoff slopes, 108 db/octave.

Selectivity Curve — Adjacent carrier — 42 db; Alternate carrier, — 150 db.

9 dynamic symmetrical-aperture limiters, full limiting on noise.

Ultra-linear Discriminator — for low distortion through sub-channel range.

Balanced-bridge diode mixer.

Automatic stereo switching — photoelectric, with indicator light and threshold adjustment.

Interstation Muting — photoelectric, with defeat switch and threshold adjustment.

Total Spurious rejection — better than 100 db. Includes images, cross modulation, etc.

Volume sensitivity — -10db maximum (reached @ 0.8 uv).

Harmonic distortion — less than 0.2% @ 15 kc after deemphasis, and less than 1% at detector.

AM rejection — at least 70 db @ 80% modulation with all signal levels.

Separation — better than 30 db from 20 cps to 15 kc, much greater in midrange.

Built-in Multipath/Tuning indicator, 3" oscilloscope tube.

Tuning gang — military type, silver plated, four balanced sections, ceramic spacers. Calibrated at 10 points.

Balanced 300 ohm input.

Dimensions — Front panel, 15 3/8" x 5 3/4"; Chassis, 14 3/8" W x 15" D (Except for depth, dimensions are identical to Model 7).

Panel Finish — Gold anodized, to match Model 7.

Shipping Weight — 38 lbs.

\$650

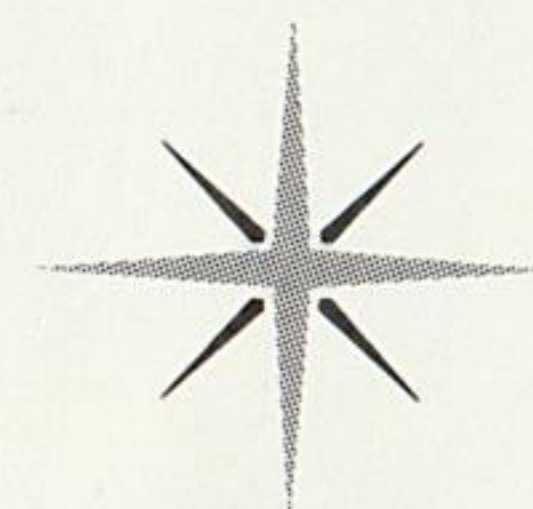
Higher in West

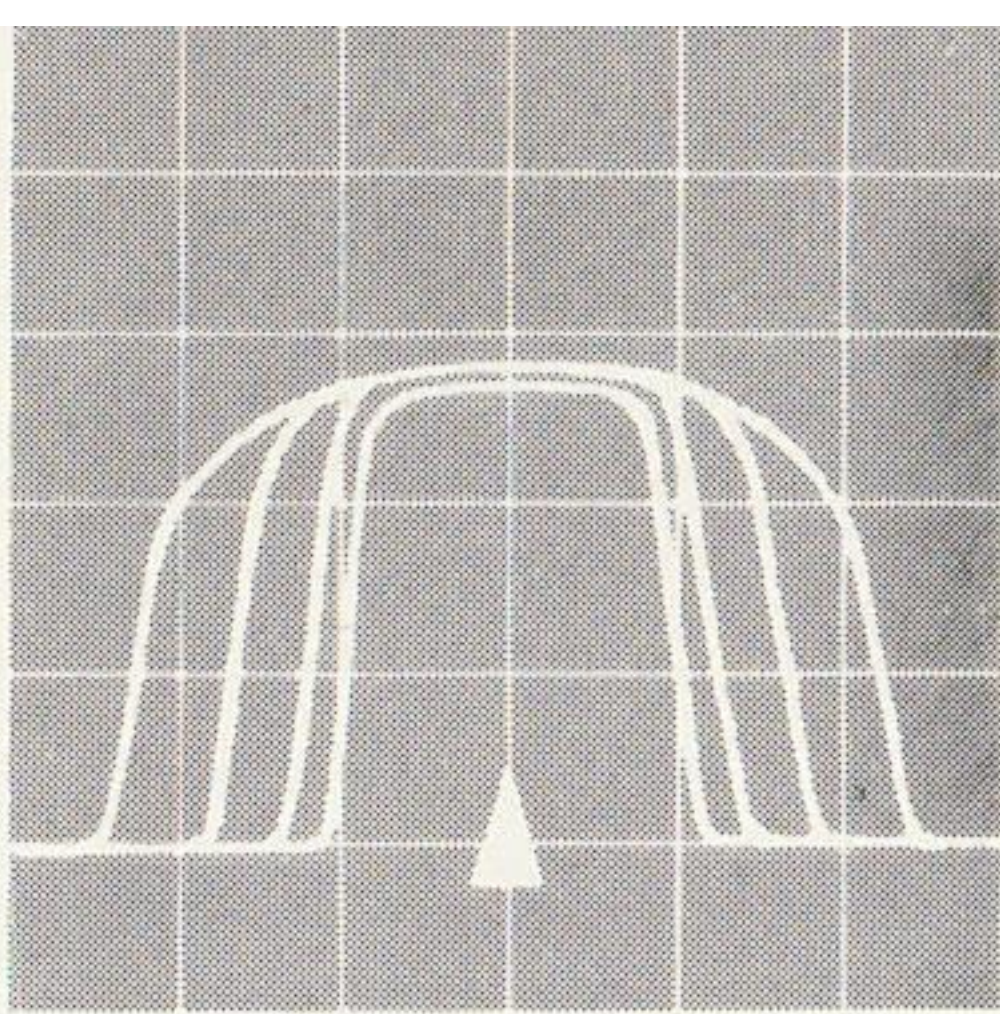
For more than ten years MARANTZ components consistently have provided a level of performance, craftsmanship, and dependability which remains unmatched to this day. We are proud to offer the model 10B, our latest fine product, as an outstanding example of the high standards we intend to uphold. We invite you to visit your local authorized MARANTZ dealer for a demonstration. You will find it a revealing and exciting musical experience.

*the
crowning
touch
of
perfection*

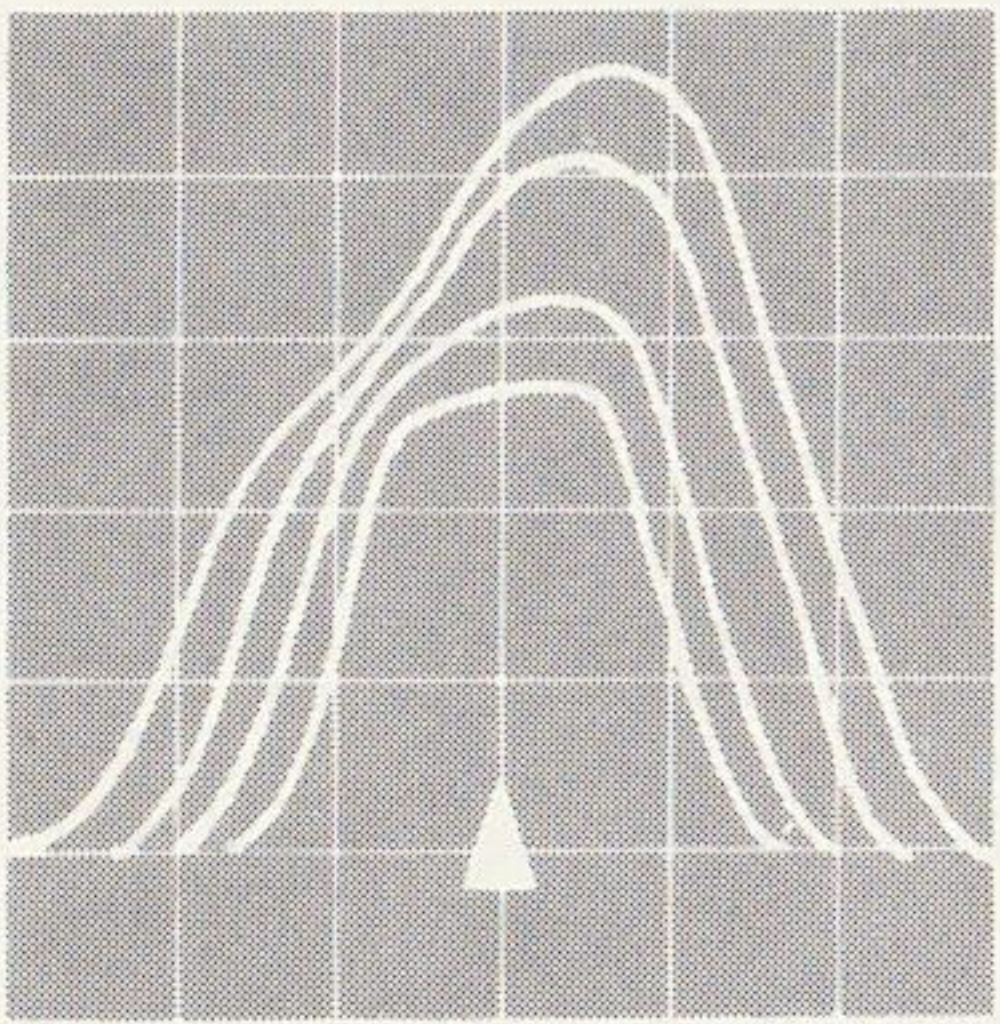
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MODEL 10B FM STEREO TUNER

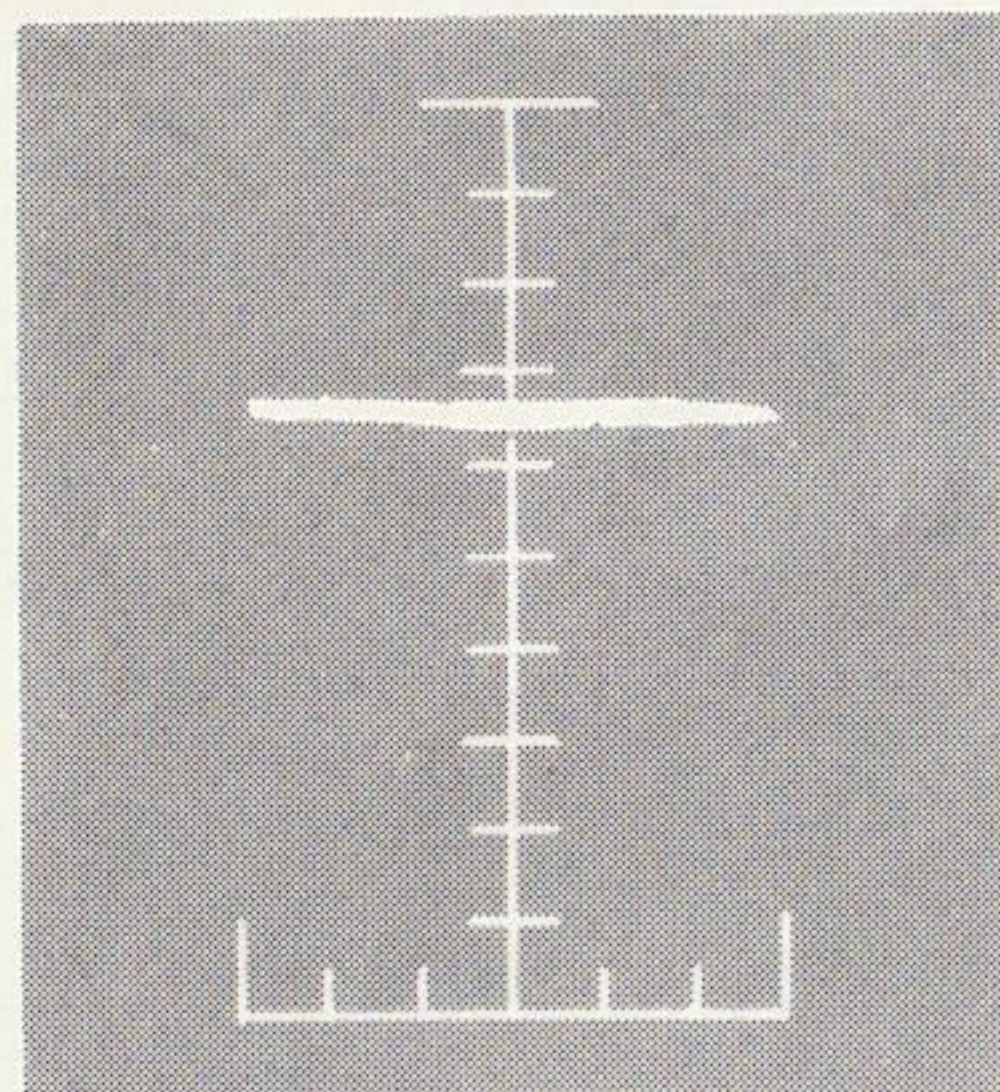




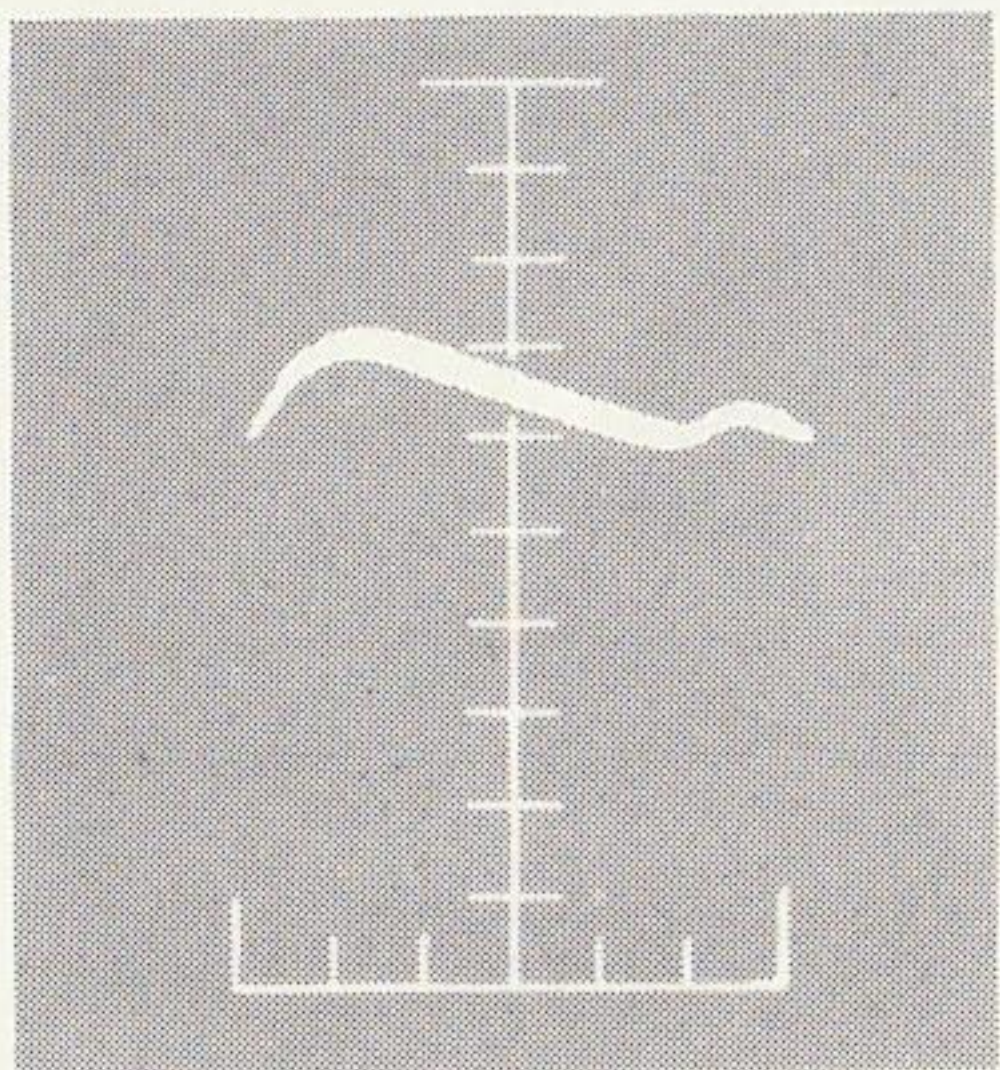
Note how the 10B IF pass-band retains phase linearity and sharp slopes at any signal strength level. This assures very low distortion and sharp selectivity.



The conventional mutually-coupled IF circuits currently in use change characteristics drastically depending on signal strength. Performance quality varies correspondingly.

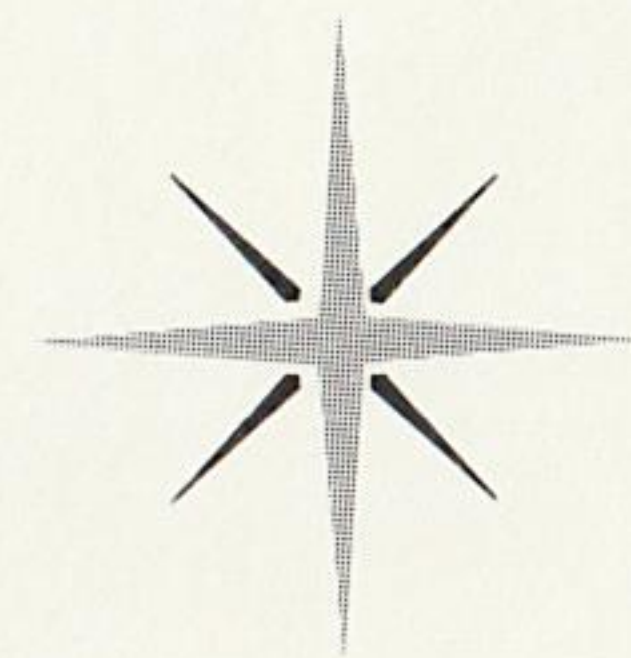


Tuning is simple and accurate with the Multipath/Tuning Indicator. Merely adjust the station tuning until the trace is centered as shown.



Multipath ("ghosts") shows up as "wiggles" along the tuning trace. For best reception, simply rotate the antenna until the trace is smooth.

MODEL 10B STEREO FM TUNER



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Without question, the model 10B is the most advanced instrument of its kind today. MARANTZ engineers have bypassed the inherent limitations of conventional circuits through the employment of bold new concepts and highly sophisticated electronic techniques. The performance of every circuit stage shows the dramatic order of improvement which can be achieved through creative inventiveness.

Now, with the introduction of the MARANTZ 10B, all requirements for real high fidelity reception have been met. It is now possible to hear FM which is equal in quality to the reproduction of tapes and discs through your own playback system.

Performance properties of the 10B in regard to quieting, stereo separation and distortion are without precedent. Its combination of high sensitivity, ultra-sharp selectivity, fast quieting action and reduced susceptibility to multipath effects, insures exceptional results in fringe areas. For the technically inclined person, an examination of the advanced features and performance specifications of the model 10B will reveal the extent of the new high standards established by this fine instrument.

See technical specifications on page four.