

Stage/Control	Function
	level. This DC voltage is applied to X 410 on the Muting Circuit Board.
Tuner Input Meter Circuit D 207, R 241	An IF output from the collector circuit of X 206 is coupled through R 232 to D 207. This half-wave rectifier feeds a DC signal to the TUNER INPUT METER M-1. Since all previous stages have fixed gain, the current in M-1 is directly proportional to signal level. R 241 is the calibration adjustment.

Limiter-Detector Circuit Board

Stage/Control	Function
IF Amplifiers X 301, 302	These are conventional RC coupled amplifiers that supply the necessary interstage gain to drive the diode limiters.
Diode Limiters D 301, 302, 303, 304	
IF Output X 303	Signal at the base of X 303 has had all amplitude variations removed by the preceding limiters, and selected signals have been passed by the solid-state filters. X 303 provides the power to drive the ratio detector.
Ratio Detector D 305, 306	IFT 301 and the diodes D 305 and D 306 form a balanced ratio detector that transforms the frequency-modulated signal into an audio signal.
R 319	Output appears across R 322. R 319 is the balance control for the ratio detector.
Tuning Meter M-2	A null-type meter connected across the balanced output of the ratio detector is used as a tuning indicator. C 323 removes the AC component of the signal, and R 330 calibrates the meter for full scale readings.
Emitter Follower X 304	X 304 supplies demodulated signals to the MPX and Muting Circuits.

Multiplex Decoder Circuit Board

Stereo is extracted by a switching or time-division decoder.

Stage/Control	Function
X 501	This stage serves two functions. The composite FM signal is

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19 kHz Amplifier X 502	extracted from its emitter circuit, and the 19-kHz pilot signal is taken from a tuned circuit in the collector circuit. The 19-kHz pilot signal, separated by the tuned coupling circuits between X 502, is amplified by X 502 to drive the frequency doubler.
Frequency Doubler D 501, 502	Signals developed at the collector of X 502 are transformer coupled to a full-wave rectifier D501, 502. The output of this rectifier is not filtered, and produces two positive pulses for each input cycle. Thus the 19-kHz frequency is effectively doubled by D501 and D502. However, the waveform is not sinusoidal at the base of X 503.
38 kHz Amplifier X 503	The 38 kHz pulses produced by D501, 502 are amplified by X503. The tank circuit in the collector circuit of X 503 is tuned to 38 kHz to restore the sinusoidal waveshape to the signal. This signal is transformer coupled to the bridge-type demodulator to supply the sampling drive for the demodulator.
Pilot and SCA Filters L 505, 506 C 507, 508	The composite signal fed to the demodulator is coupled from the emitter of X 501 through to anti-resonant circuits consisting of C 507/L 505 and C 508/L 506. The first of these is tuned to 19 kHz to eliminate the pilot carrier. The second tank tunes to 67 kHz to eliminate the SCA signal.
Multiplex Demodulator D 503, 504, 505, 506	The demodulator circuit employs four diodes in a balanced bridge arrangement. This system cancels much of the residual RF products. The 38 kHz pulses switch the composite signal in four diodes and switching transformer to produce L and R signals at the output when the tuner operates in the stereo mode.