

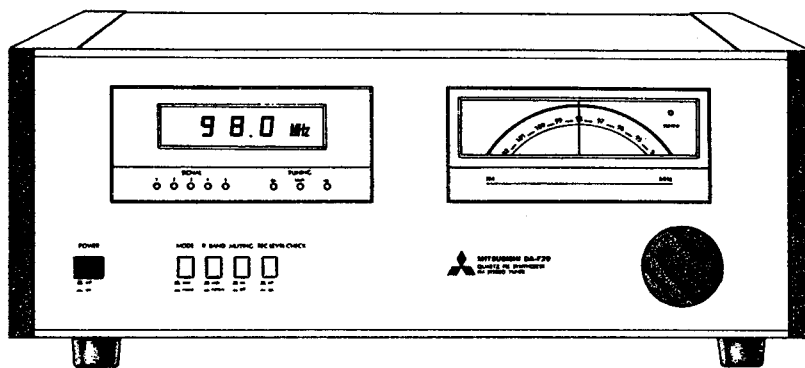


# FM STEREO TUNER

# DA-F20

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## SERVICE MANUAL



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MELCO SALES, INC.

# SPECIFICATIONS

## 1-(1) FM TUNER SECTION (IHF)

Usable sensitivity	
MONO	11.2 dBf (2.0 $\mu$ V)
STEREO	22.7 dBf (7.5 $\mu$ V)
50 dB quieting sensitivity	
MONO	19.2 dBf (5.0 $\mu$ V)
STEREO	39.2 dBf (50 $\mu$ V)
Signal to noise ratio	
MONO	80 dB (WIDE) , 75 dB (NARROW)
STEREO	75 dB (WIDE) , 70 dB (NARROW)
Frequency response	
$\pm 1$ dB from 30 Hz to 15 kHz	
Total harmonic distortion (at 1 kHz, 65 dBf)	
MONO	0.05% (WIDE) , 0.15% (NARROW)
STEREO	0.08% (WIDE) , 0.25% (NARROW)
Capture ratio	
	0.8 dB (WIDE) 1.3 dB (NARROW)
Alternate channel selectivity	
	45 dB (WIDE) , 75 dB (NARROW)
Spurious response ratio	
	100 dB
Image response ratio	
	100 dB
IF response ratio	
	100 dB
AM suppression	
	65 dB (WIDE) , 55 dB (NARROW)
Stereo separation	
WIDE	50 dB at 1 kHz, 40 dB at 10 kHz
NARROW	45 dB at 1 kHz, 30 dB at 10 kHz
Subcarrier product ratio	
	70 dB
SCA rejection ratio	
	70 dB
Tuning range	
	88 MHz to 108 MHz

## 1-(2) FM TUNER SECTION (DIN)

sensitivity (at 40 kHz deviation)

MONO (S/N 26 dB)	1.2 $\mu$ V
STEREO (S/N 46 dB)	32 $\mu$ V
Image frequency rejection (at 98 MHz)	100 dB
IF rejection (at 98 MHz)	100 dB
Spurious rejection (at 98 MHz)	100 dB
AM rejection	65 dB (WIDE), 55 dB (NARROW)
Selectivity (at 40 kHz deviation, $\pm$ 300 kHz)	40 dB (WIDE), 75 dB (NARROW)
Signal to noise ratio (at 40 kHz deviation, weighted)	
MONO	74 dB
STEREO	72 dB
Total harmonic distortion (at 1 kHz, 40 kHz deviation)	
MONO	0.06% (WIDE), 0.15% (NARROW)
STEREO	0.08% (WIDE), 0.3% (NARROW)
Stereo separation (at 1kHz, 40kHz deviation)	50 dB (WIDE), 40 dB (NARROW)
Frequency response	$\pm$ 1 dB from 30 Hz to 15 kHz

## 2. GENERAL

Output level/impedance

FIXED	150 mV/5k ohms
VARIABLE	0V to 500 mV/5k ohms

Power consumption

17.5W

Dimensions (W  $\times$  H  $\times$  D)

425  $\times$  170  $\times$  264 mm  
(16-3/4  $\times$  6-3/4  $\times$  10-3/8")

Weight

6.6 kg (14-1/2 lb)

Supplied with: T shaped antenna  
pin plug cord

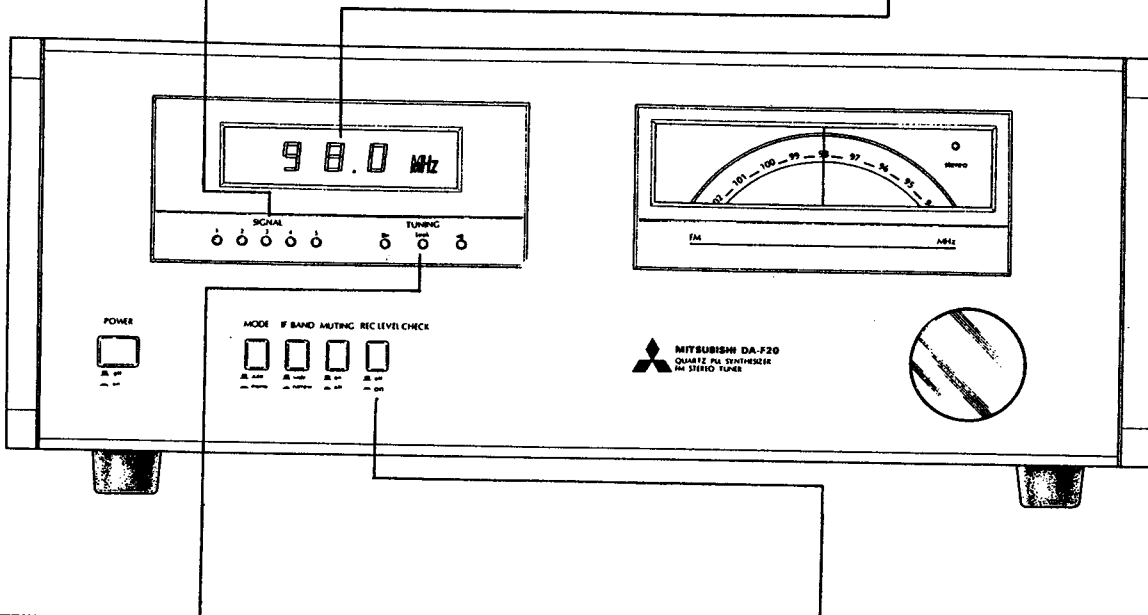
Design and specifications are subject to change without notice for improvements.

# DESCRIPTION AND FUNCTION OF EACH PART

## FRONT PANEL

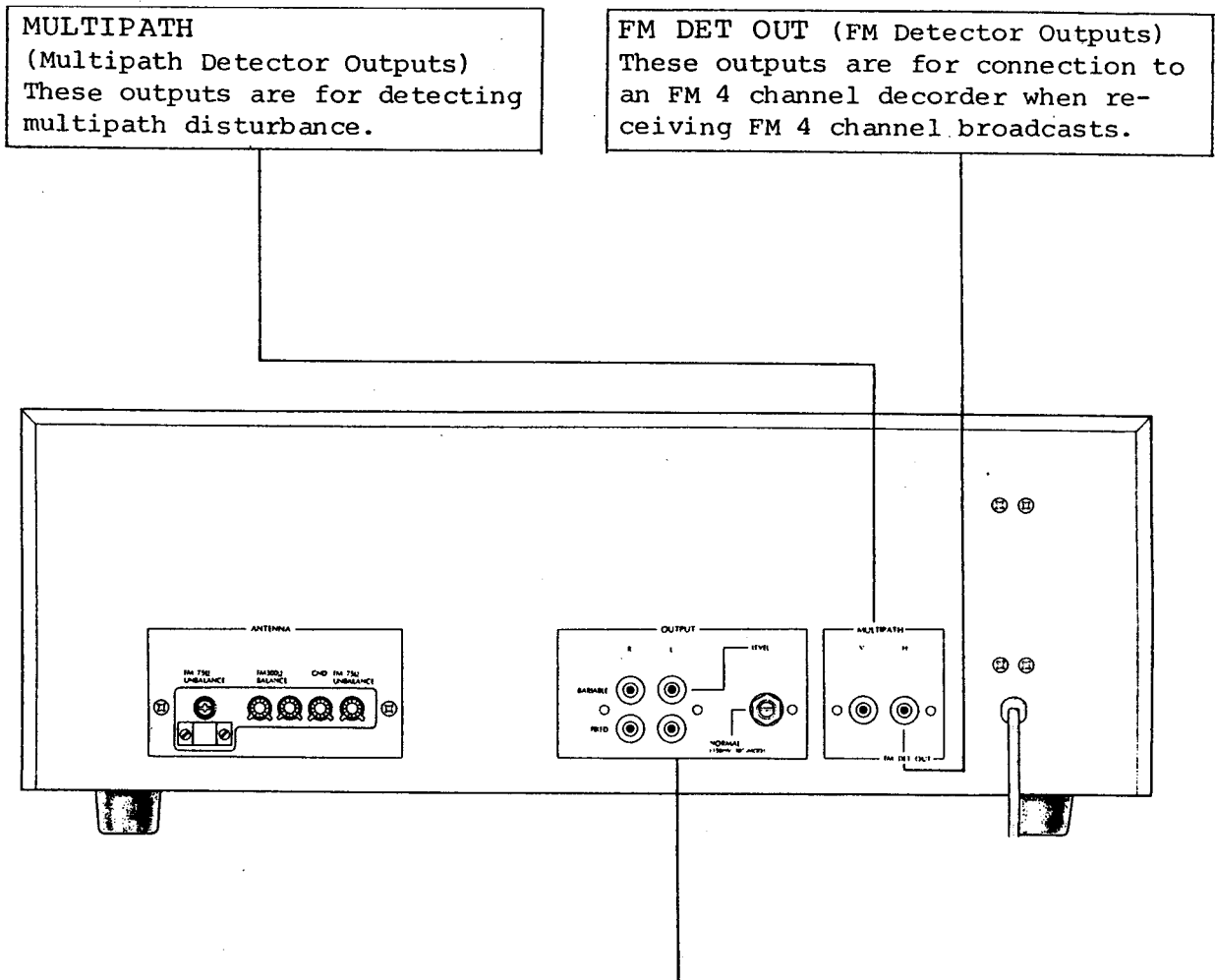
**SIGNAL (Signal Strength Indicator)**  
This indicator shows the signal strength level of the input at the antenna. Sufficient signal to noise ratio for stereo reception is obtained when four or more indicator lamps are illuminated. For monaural reception, when three or more indicator lamps are illuminated.

**FREQUENCY DIGITAL DISPLAY**  
This display expresses the numerical value of the receiving frequency.



**TUNING (Tuning Indicator)**  
This indicator shows the most distortion free position for FM reception. When receiving FM broadcasts tune in the station with the SIGNAL indicator. Then use this indicator for fine tuning adjustments. When no FM signal is present this indicator will not be illuminated. As a station is tuned, either the right or left indicator will illuminate red. When the signal is tuned to optimum position, the center indicator marked "lock" will be illuminated green.

**REC LEVEL CHECK (Recording Level Check Switch)**  
This switch is used for the adjustment of the recording level when FM broadcasts are recorded. When this switch is in the ON position, a sine wave of 440Hz, which is equivalent to 50% FM modulation, will be produced at the output.



**MULTIPATH**  
 (Multipath Detector Outputs)  
 These outputs are for detecting multipath disturbance.

**FM DET OUT (FM Detector Outputs)**  
 These outputs are for connection to an FM 4 channel decoder when receiving FM 4 channel broadcasts.

**OUTPUT (Tuner Outputs and Control)**  
 These are used for adjusting the output of this unit.

**VARIABLE (Variable Outputs)**  
 For connecting to the "tuner" inputs of the preamplifier. This output level can be adjusted between 0 ~ 500 mV (30% modulation) by the LEVEL control. Normally the tuner's output is adjusted to the same volume level as other sources connected to the preamplifier.

**FIXED (Fixed Outputs)**  
 For connecting to the "tuner" inputs of the preamplifier. This output level is fixed at 150 mV (30% modulation). When recording broadcasts directly, connect this outputs to the "record" inputs of the tape deck.

**LEVEL (Output Level Control)**  
 For adjusting the output level at the VARIABLE outputs. Rotate clockwise to increase the output, counterclockwise to decrease it. Adjust this control so that all program sources connected to the preamplifier produce the same volume level.