

## THEORY OF OPERATION

The BA1404 is a monolithic FM Stereo transmitter IC. It contains a stereo multiplexer, FM modulator, and an RF amplifier, all in one IC. The input circuit provides individual volume control and pre-emphasis circuits. The left and right signals are amplified with separate amplifiers inside the BA1404. These signals are applied to the multiplexer, which switches the signals with a 38 KHz osc. (pins 4, 5 & 6). The output of the multiplexer is fed into a buffer and comes out on pin 14. The DC balance of the multiplexer is adjusted by R3 on pins 16 & 17. The L + R, L R, and the 19 KHz pilot are connected to the input of the FM modulator circuit (pin 12). The FM oscillator frequency is determined by L1 and C13, on pins 9 and 10. The RF amplifier output is pin 7 (the input to this stage is connected inside the BA1404). This signal is connected to the antenna.

## WARNING

### COMPLIANCE WITH FCC REGULATIONS

This equipment generates and uses radio frequency energy, and if not installed or used properly, that is, in strict accordance with the manufacturers instructions, may cause interference to television and radio reception. It has been type tested and found to comply with limits for Class "B" computing devices in accordance with the specifications in Subpart 3 of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

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## PARTS LIST

### FMST-100D FM STEREO TRANSMITTER

#### Resistors:

( ) 2	R1,R2	5K or 10 K Ohm TRIM POT
( ) 1	R3	50 K or 100K Ohm TRIM POT
( ) 2	R4,R5	47 K Ohm Resistor (yel vio org)
( ) 2	R6,R7	1 K Ohm Resistor (brn blk red)
( ) 1	R8	150 K Ohm Resistor (brn grn yel)
( ) 1	R9	2.7 K Ohm Resistor (red vio red)

#### Capacitors:

( ) 4	C1,C2,C9,C14	.001uF Cap (Marked 102 or .001)
( ) 5	C3,C4,C8,C10,C15	10 uF Cap (Marked 10uF)
( ) 3	C5,C6,C7	10pF Cap (Marked 10 or 100)
( ) 1	C11	220pF Cap (Marked 220 or 221)
( ) 1	C12, C13	15pF Cap (Marked 15 or 150)
( ) 1	C16	470uF Cap (Marked 470uF)
( ) 1	C17	6.8 pF Cap

#### Semiconductors & ICs:

( ) 1	U1	BA1404 IC
( ) 1	U2	LM78L05 Voltage Regulator

#### Miscellaneous:

( ) 1	J1	PC Mount 3.5mm Audio connector
( ) 1	J2	PCB Mount Phono Connectors
( ) 1	X1	38.00 KHz Crystal (Silver cylinder)
( ) 1	D1	Red LED
( ) 1	U1S	18 pin IC Socket
( ) 1	L1	4.5 Turn Slug Tuned Coil
( ) 1	L2	.33uH Inductor (org, org, silv, blk)
( ) 1	SW1	Switch PCB Mount
( ) 1	PC BOARD	080-00402
( ) 1	Battery Connector	