STANDARD FACTORY SETTINGS

The audio processor is programmed at the factory for the following conditions:

Timeout timer: 5 minutes ± 10%
Audio Circuitry: +9.5V switched operation
Maximum deviation: 5.0 kHz
Microphone input enabled
-10 dBm, 1 kHz signal produces 2.5 kHz deviation,
1 kHz signal compression set at 3.0 kHz deviation
Balanced input enabled
- pre-emphasis response
-8 dBm, 1 kHz signal produces 3.0 kHz deviation,
1 kHz signal compression set at 3.0 kHz deviation
Subtone input 1
-18 dBm, 100 Hz signal produces 500 Hz deviation.
Subtone input 2 disabled
Auxiliary input disabled
The following jumpers are enable for the above settings: J1, J3, J4, J6, J8, J9, J17, J20, and J21. All other jumpers are disabled.

STANDARD DEVIATION ADJUSTMENT

The following deviation adjustment procedure should be done each time the crystal module of the transmitter is changed due to individual crystal characteristics.

1) Before adjusting the audio deviation, confirm that the transmitter RF output frequency is correct.

2) Connect the transmitter to a 50 ohm dummy load/power sampler and monitor F.M. deviation, distortion, and audio frequency.

3) Connect the 600 ohm input to the incoming audio (pins B18, Z18). Set the audio frequency to 1 kHz at the desired level.

4) Increase the balance level control (R31:ccw) for maximum gain.

5) Turn the transmitter on

6) Adjust the balance compression level (R38:cw) for compression at ±3.0 kHz deviation.

7) Increase the modulation frequency until maximum deviation occurs (peaks), then adjust the deviation control (R29:cw) until the maximum deviation is ±4.8 kHz.

8) Reset the modulating frequency to 1 kHz and re-adjust R38 for ±3.0 kHz deviation.

9) Repeat steps 7 and 8 until both conditions are met.

10) Vary the audio signal from 1 kHz to 3 kHz and measure the + deviation and then the - deviation. Adjust the symmetry control (R14) until the ± deviation is symmetrical. The variation between ± deviation levels should not exceed 300 Hz over the 1 kHz to 3 kHz range.

11) Check steps 7 and 8 and re-adjust if necessary.

12) Adjust the balanced input level control (R31:ccw) until the deviation produced by a 1 kHz tone at -8 dBm falls below ±3 kHz, then adjust R31 so that the deviation increases until compression is observed. The deviation should be ±3 kHz.

13) A 1 kHz tone at -8 dBm input level should produce ±3 kHz deviation. If not, go back to step 4 and make sure the pot is set for maximum gain and repeat the procedure. If so, increasing the input level by +20 dBm should not increase the deviation. This confirms that the AGC action of preamplifier U2 is working.

14) A 2.4 kHz tone at the desired audio input level should produce ±4.8 kHz deviation. Increasing the input level by +20 dBm should not increase the deviation. This confirms that the limiting action of U4A and U5A is working.

15) Confirm audio distortion by reducing the 1 kHz tone level until ±3 kHz deviation is reached and record the distortion with the appropriate filter on the analyzer.

16) Confirm the audio frequency response by referencing all output deviation measurements to a 1 kHz input tone at 1 kHz deviation.

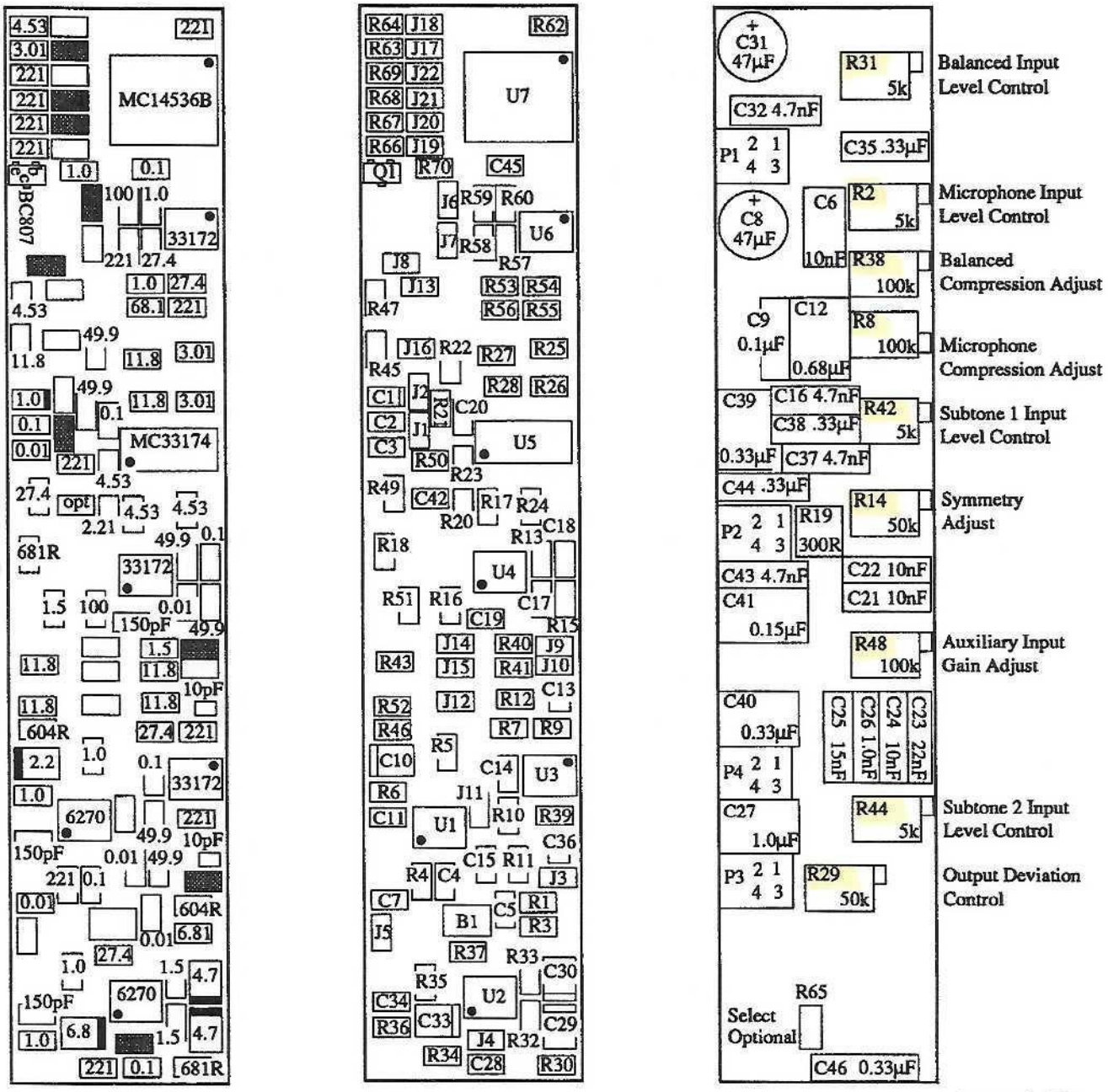
17) Remove the signal to the balanced input (pins B18, Z18).

18) Apply a 1 kHz tone at -8 dBm to the microphone audio input. Set the microphone compression control (R8:cw) to produce ±3 kHz deviation. Reduce the signal to -10 dbm and adjust the microphone input level control (R2:ccw) for 2.5 kHz deviation. Remove the signal.

19) Apply a 100 Hz tone at -18 dBm to the subtone 1 input and adjust the subtone 1 level control (R42:ccw) to produce ±500 Hz deviation. Remove the signal.

**note: the directions cw or ccw denote increasing signal levels

AUDIO PROCESSOR MODULE LAYOUT
FIGURE: 2



Unless Otherwise Specified
All resistors KΩ
All capacitors in µF