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The schematic diagram illustrates the internal circuitry of a portable radio receiver, organized into several functional blocks:

- Power Supply Section:**
 - Transformer:** A transformer with a primary of 240V/50Hz and secondaries of 27V-22.2A, 14V-21.5A, and 1.4V.
 - Rectification:** A bridge rectifier using four 1N4001 diodes (D1-D4) connected to a 27V-22.2A secondary.
 - Filtering:** A 4700µF electrolytic capacitor (C1) filters the rectified output, which is then regulated to 14V by a 7814V regulator (U1) and a 1.4V regulator (U2).
 - Grounding:** A common ground is established for the entire circuit.
- Tuning Eye Section:**
 - Detector:** A 2N4013 PNP transistor (Q1) acts as the detector, with its base connected to the antenna input and its emitter to ground.
 - Visual Indicator:** A 2N4013 PNP transistor (Q2) drives a 2N4013 LED (D1) to provide visual feedback for tuning.
- Audio Amplifier Section:**
 - First Stage:** A 2N4013 PNP transistor (Q3) provides the first stage of audio amplification.
 - Second Stage:** A 2N4013 PNP transistor (Q4) provides the second stage of audio amplification.
 - Output Stage:** A 2N4013 PNP transistor (Q5) drives a 2N4013 speaker (S1) for audio output.
- Control and Biasing:**
 - Resistors:** Various resistors (R1-R10) are used for biasing and signal conditioning.
 - Capacitors:** Various capacitors (C1-C10) are used for coupling, bypassing, and filtering.
 - Connectors:** Connectors (CON1-CON4) are used for external connections, including the antenna and power source.

Chapter 7. Circuit schematic

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MCU SHEET

