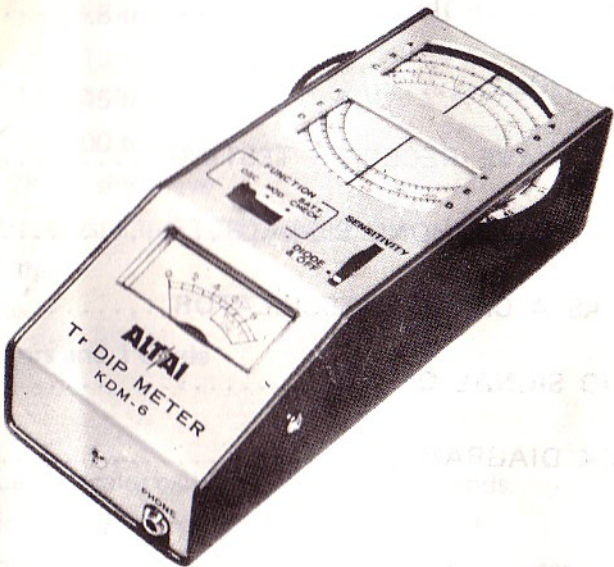


**ALTAI**  
TR DIP METER  
KDM-6



**Operation Manual for Altai KDM-6 Dip Meter**

Scanned by OZ1BXM Lars Petersen in October 2005.

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## INSTRUCTION MANUAL FOR TR DIP METER

### 1. SPECIFICATION

Frequency Range : 1.5 to 250 MHz with six plug in coils.

BAND	RANGE
A	1.5 to 4MHz
B	3.3 to 8MHz
C	6.8 to 18MHz
D	18 to 47MHz
E	45 to 110MHz
F	100 to 250MHz

Modulation : Approx 2KHz, sine wave

Crystal Oscillator : 1-15MHz, crystal in FT-243 holder

Power Supply : 9 volt battery

Current Consumption : 2mA, Max.

Semiconductor complement: 2 transistors and 1 diode

### 2. PANEL CONTROLS

Freq. dial : six frequency scales calibrate according to bands.

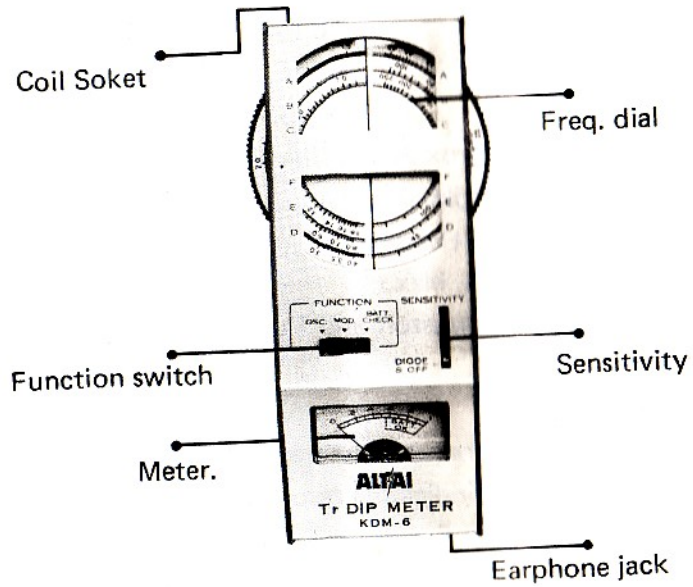
Meter. : For indicating resonance and for battery check.

Function switch : OSC: For use as a dip meter or absorption wavemeter.

MOD: Applies 2KHz AM to the carrier output.

BATT.: For checking condition of check internal battery.

- Sensitivity : Adjusts the output level of the oscillator at OFF, the power supply is cut off and the instrument can be used as an absorption wavemeter.
- Earphone jack : For monitoring AM signals with a crystal earphone.
- Coil Scket : Plug in the RF tank coil for the oscillator curcuit.



### 3. OPERATION

1. Battery Check and Replacement
  - a) Set FUNCTION at BATT CHECK
  - b) Advance SENSITIVITY to power at ON. The meter pointer should swing to the BATT OK portion ON the scale. If not, renew the battery.
  - c) After this check, set SENSITIVITY at OFF.
2. Use as a DIP METER
  - a) Plug the coil for the band in use in the socket.
  - b) Set FUNCTION at OSC
  - c) Advance SENSITIVITY past the click point so that the meter pointer swings to about 0.80.
  - d) Couple the coil loosely to the test circuit and rotate the frequency dial in small steps until a dip is observed on the meter.
  - e) Adjust the frequency dial until the maximum dip is obtained.
  - f) Note the frequency on the frequency dial.
  - g) Set SENSITIVITY at OFF after the tests.
3. Use as an Absorption Wavemeter
  - a) Plug the coil for the band in use in the socket
  - b) Set SENSITIVITY at OFF.
  - d) Set FUNCTION at OSC.
  - d) When the coil is coupled to the coil in an oscillator or RF tank coil in a transmitter, the

meter pointer will swing upward when turned to resonance. The amount of the swing depends on the strength of the oscillations and/or coupling distance.

f) Read the frequency.

#### 4. Short Wave Receiver Testing

In this application, the dip meter is used as a simple test oscillator, with or without amplitude modulation.

The test frequency is set with the suitable coil and frequency dial. The dip meter is placed near the receiver, the "input signal strength" can be varied with the distance between the dip meter and the receiver.

For operation, set SENSITIVITY for RF output.

Communications receivers with beat oscillators can be tested by setting FUNCTION at OSC for the CW signal.

When an AM signal is required, set FUNCTION at MOD A tone of approximately 2KHz will be heard in the loudspeaker.

Adjustments, as required, can be made, with the respective signals, in the receiver circuits.

#### 5. Monitoring Phone Signals

The wavemeter application, can be used for the monitoring AM phone signal

A crystal earphone is connected to the earphone plug and the plug is inserted in the PHONE jack. Turn to the RF test frequency using the proper coil.

For "remote" indication of the modulated output, a 100 $\mu$ A DC meter can be connected to the earphone plug, the inner contact is the + side.

6. Use as a Crystal Oscillator

In place of the coil, a quartz crystal, 1–15 MHz in the FT 243 holder, inserted in the socket will produce output at the crystal frequency.

Set FUNCTION at OSC and SENSITIVITY as required for the output. The frequency dial is rotated until the most stable condition is obtained.

Set the dip meter near the receiver for signal pickup. For modulated output, set FUNCTION at MOD.

7. Audio Signal Output

Set up the instrument for dip meter operation, with coil E and F in the socket.

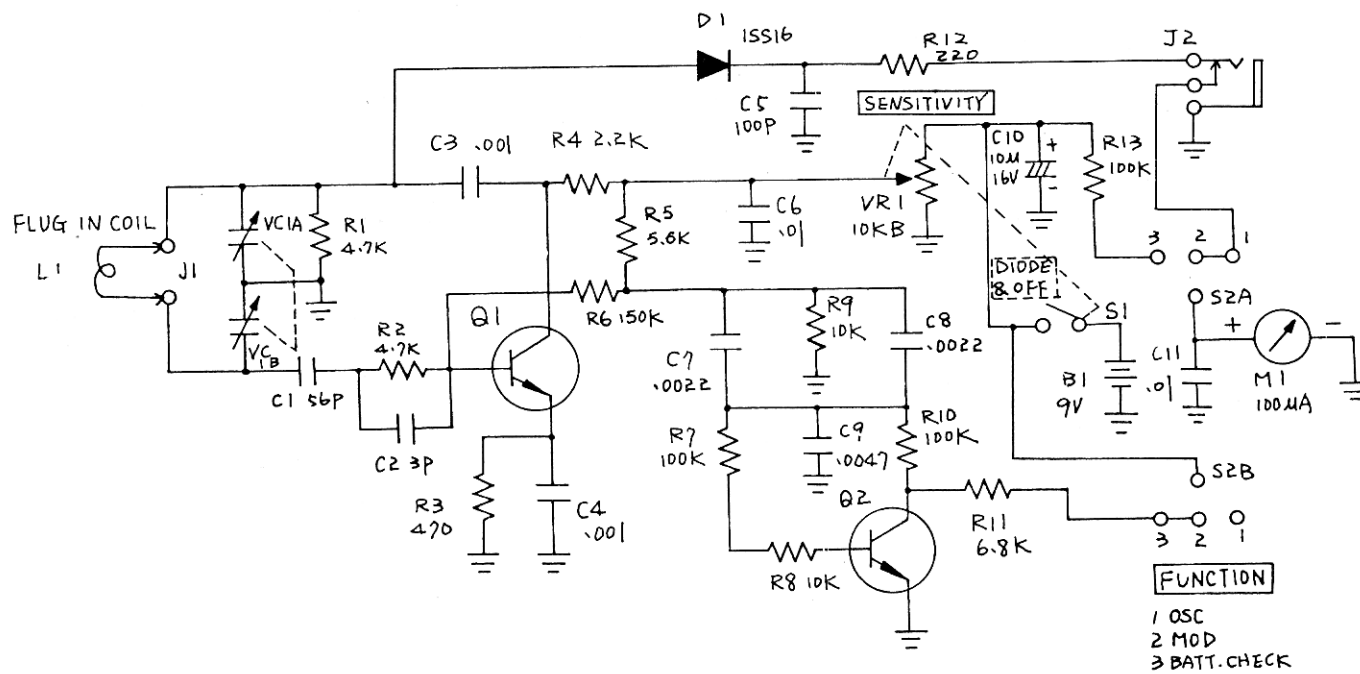
Set FUNCTION at MOD.

Audio output at approximately 2KHz is available at the PHONE jack. The plug connections are as following

Inner contact for the "hot" side and the sleeve for ground.

This signal can be used for checking audio circuit.

## 8. BLOCK DIAGRAM



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