

# HIDEKI TIME CORP. LTD.

## TECHNICAL DESCRIPTION OF TE12

RAR182 is operated by single micro-controllers (TM8705).

The MCU provides the features of Indoor Thermo (by sensing the thermistor RT1), and the communication of the remote thermo module. For the remote thermo part, it is simply a UHF (Ultra-High-Frequency) receiver and its center frequency is 433.92 MHz. It employs the super-regenerative receiver technique. The LC circuitry, L3, C8, C9 and C6 provides frequency selection and it is set to 433.92 MHz.

Signal is received by an antenna and amplified by Q1. By extracting the collector output of the transistor, Q2, a regenerated signal is obtained. The circuitry, R11 and C14, acts as a low-pass filter that extracts the envelope of the regenerated signal. Demodulated signal is obtained from the output port of the operational amplifier, pin 1 of U1-A. The other part of U1 composes a schmitter-trigger circuitry that converts the demodulated signal into pulses that can be read by micro-controller.

On the other hand, U1 is also provided a simply alarm clock function. User can adjust the clock by the setting keys.