

## Features

- PT8A977B works as encoder and PT8A978B/978BL works as decoder
- Five pins for five control functions
- Operating power-supply voltage: 2.5V to 5.0V (978B), 2.0V to 5.0V (978BL), 1.8V to 5.0V(977B)
- Auto-power-off and oscillation-off if no press on any button (977B)
- Press on any button to wake up (977B)
- One output pin used for external power control (977B)
- On-chip oscillator with an external resistor
- On-chip reversing amplifiers (978B, 978BL)
- Low operating current
- Few external components needed
- Package: 14-pin DIP, 14-pin SOIC, 16-pin DIP and 16-pin SOIC

## Ordering Information

| Part No.   | Package     |
|------------|-------------|
| PT8A977BP  | 14-pin DIP  |
| PT8A977BW  | 14-pin SOIC |
| PT8A977BDE | Die Form    |
| PT8A978BP  | 16-pin DIP  |
| PT8A978BLW | 16-pin SOIC |
| PT8A978BDE | Die Form    |

## General Description

The PT8A977B and PT8A978B (or 978BL) provide complete control functions to the remote-controlled toy. The PT8A977B has five input pins corresponding with the five function buttons i.e, forward, backward, rightward, leftward and turbo. The encoding circuit in the PT8A977B sends digital codes to the two output pins SO and SC. The digital codes correspond to the definite function buttons or their combinations. The SO and SC outputs are used in wireless and infra-red applications respectively.

The PT8A978B (or 978BL) has five output pins corresponding with the five actions. The received signals are amplified by the three-stage amplifier, and then the appropriate amplified signals are sampled, fault-tolerantly checked and decoded to control the actions of the remote-controlled toy.

There is an internal oscillator in the PT8A977B and 978B/978BL respectively. By adding an external resistor conveniently, the oscillator will be constructed. The oscillator frequency can be adjusted by the external resistor. The relative error between the frequencies of the two on-chip oscillators in the PT8A977B and PT8A978B/978BL must be less than  $\pm 25\%$ .

The auto-power-off function is achieved by an internal counter (977B). The PC output is used to control on/off state of the external power supply. Press on any function button will wake up the chip promptly.