

VT1 – Operating description

The VT1 is an RF control device with an LED indicator, used for remotely controlling the VD1 queue system display.

The main function of the VT1 is to turn feed the numbers displayed by VD1.

For this purpose, the VT1 is provided with a transmitter, operating on the ISM 433.92MHz band.

In addition, the VT1 performs the following functions:

- ✓ Queue number repetition
- ✓ Queue number reset
- ✓ VD1 display stand-by
- ✓ System code setting, with 8 valid numbers (1...8)

The VT1 remote control has three front buttons, that allow:

- ✓ Central button: turn feed; fast feed by applying continuous pressure (2 sec); VT1 turning ON.
- ✓ Upper button: turn number repetition; display turning OFF by applying continuous pressure (2 sec)
- ✓ Lower button: turn number reset by applying continuous pressure (2 sec)

Besides the above specific functions, the three front buttons control VT1 turning ON: by pressing one of the buttons, the turn ON cycle begins as well as the turn OFF timeout, lasting about 2 secs. After that VT1 turns totally OFF. The 2 sec timeout is re-entered whenever you press a button.

VT1 – Block diagram

The VT1 device has the following blocks (see drawing PN007.071.1)

1. CPU
2. 3x1 Keyboard Matrix
3. Power control
4. 433MHz OOK Transmitter

1. CPU

All the functions of VT1 are controlled by a 1MHz “single chip” CPU.

2. Keyboard Matrix

For uniformity with higher class models (VT2), the keyboard on the VT1 is also designed as a 3x4 matrix, where only one column is used.

3. Power control

The power supply circuit performs the following functions:

- turning ON, activated by buttons controlled by the CPU
- security against accidental inversions of the battery
- power supply set at 5V
- low current for stand-by mode.

4. 433MHz OOK Transmitter

The data transmission is made by a two stage Colpitts oscillator, controlled by a 433.92MHz SAW resonator. ON-OFF Keying modulation is applied.

The data encoding is performed directly by the CPU.