

9325812 UNITED MICROELECTRONICS

92D 00630 D F65-15



UM3720

ADVANCED PRODUCT DESCRIPTION Fan Controller(Transmitter)

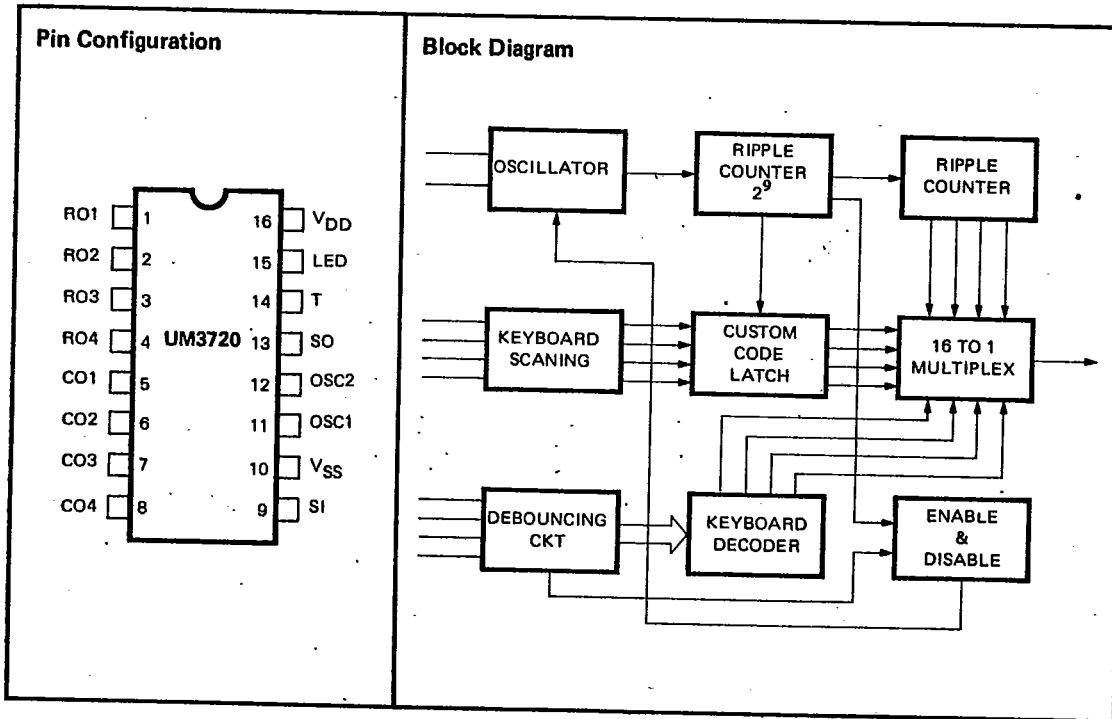
Features

- Two wind blowing modes: ordinary wind, rhythm wind
- Three kinds of wind scale in each wind blowing mode: light wind, moderate wind, strong wind
- Time setting function
- Sleep mode function
- Fan swinging function
- R/C function (custom codes can be selected)
- Wide voltage operation
- Low power consumption

General Description

The UM3720 is a CMOS integrated circuit with 16 pins. It can be used for an infrared remote control transmitter, which may be available for the fan, air conditioner and toy etc.

The UM3720 is designed to transmit 256 (16 key x 16 custom code) commands. These commands use 8 bit P. C. M. code transmitted by infrared LED.



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92D 00631

D7-65-15



UM3720

Absolute Maximum Ratings*

Supply Voltage $V_{DD}-V_{SS}$	7.0V
Input Voltage $V_{IN}-V_{SS}$	-0.3 to V_{DD} V
Power Consumption P_d	250mW
Operating Temperature Range	-20 to +75°C
Storage Temperature Range	-40 to +125°C

***Comments**

Stress above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only. Functional operation of this device at these or any other conditions above those indicated in the operational sections of this specification is not implied and exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Electrical Characteristics

($T_A = 25^\circ\text{C}$, $V_{DD} = 3\text{V}$, unless otherwise specified.)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Operating Voltage	V_{DD}	1.5	3.0	4.5	V	
Stand-by Current	I_{DD}	-	0.5	1	μA	$V_{DD} = 3.0\text{V}$
Operating Current	I_{DD}	-	1	2	mA	No load $V_{DD} = 3.0\text{V}$
Serial Output Driving Current	I_{OH}	-	15	-	mA	$V_{OH} = 1.0\text{V}$ $V_{DD} = 3.0\text{V}$
Sinking Current	I_{OL}	-	15	-	mA	$V_{OL} = 1.0\text{V}$ $V_{DD} = 3.0\text{V}$
LED Driver Sinking Current	I_{OL}	-	8	-	mA	$V_{OL} = 1.0\text{V}$ $V_{DD} = 3.0\text{V}$

Pin Description

Pin No.	Designation	Description
1	RO1	Keyboard Row Line 1
2	RO2	Keyboard Row Line 2
3	RO3	Keyboard Row Line 3
4	RO4	Keyboard Row Line 4
5	CO1	Keyboard Column Line 1
6	CO2	Keyboard Column Line 2
7	CO3	Keyboard Column Line 3
8	CO4	Keyboard Column Line 4
9	SI	Serial Input (Custom Code)
10	V_{SS}	Negative Power Supply
11	OSC1	Oscillator Input
12	OSC2	Oscillator Output
13	SO	Serial Output
14	T	Testing
15	LED	LED Driver
16	V_{DD}	Positive Power Supply (3V)

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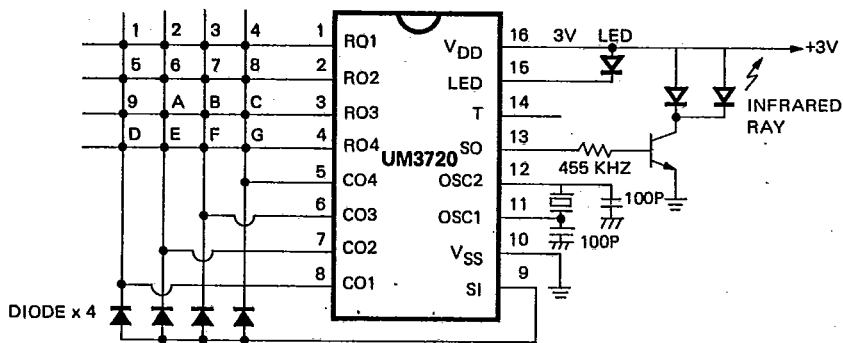
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UM3720

Application Circuit

APPLICATION CKT



Keyboard Function

- | | | | |
|--------------|---------------|--------------|----------------|
| 1. RO1 x CO1 | Ordinary wind | 5. RO2 x CO1 | Timer |
| 2. RO1 x CO2 | Rhythm wind | 6. RO2 x CO2 | ON /OFF switch |
| 3. RO1 x CO3 | Sleep | 7 ~ G | .No action |
| 4. RO1 x CO4 | Swing head | | |