

THOMSON-EFCIS

Integrated Circuits

UAA4000

REMOTE CONTROL TRANSMITTER

The UAA4000 is an easily expandable, 32 command, pulse position modulation transmitter drawing zero standby current.

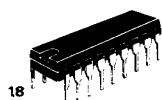
- Ultrasonic or infra-red transmission
- Direct drive for ultrasonic transducer
- Direct drive of visible LED when using infra-red
- Very low power requirements
- Pulse position modulation gives excellent immunity from noise and multipath reflections
- Single pole key matrix
- Switch resistance up to 1 k Ω tolerated
- Few external components
- Anti-bounce circuitry on chip.

Quick reference data

- Power supply : 9 V, standby 6 μ A, operating 8 mA
- Modulation : pulse position with or without carrier
- Coding : 5 bits word giving a primary command set of 32 commands
- Key entry : 8 x 4 single pole key matrix
- Date rate : selectable 1 bit/sec to 10 k bit/sec
- Carrier frequency : selectable 0 Hz (no carrier) to 200 Hz.

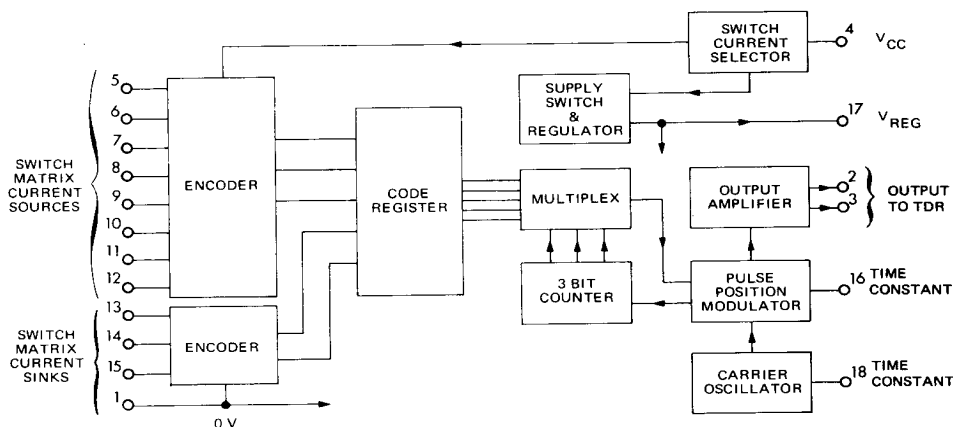
REMOTE CONTROL TRANSMITTER

CASE CB-225



DP SUFFIX
PLASTIC PACKAGE

BLOCK DIAGRAM



NT8050R1-A 1/5

THOMSON-EFCIS

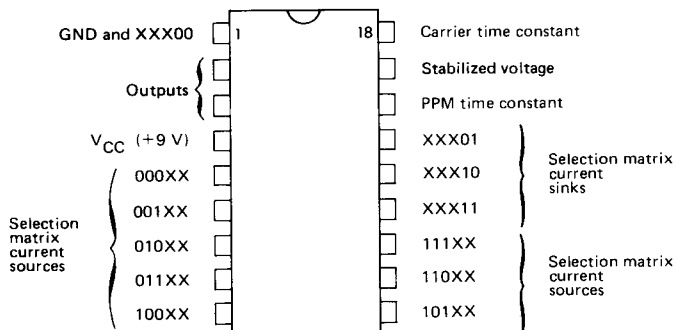
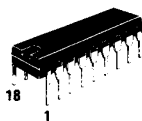
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THOMSON-CSF
COMPONENTS

PIN CONFIGURATION

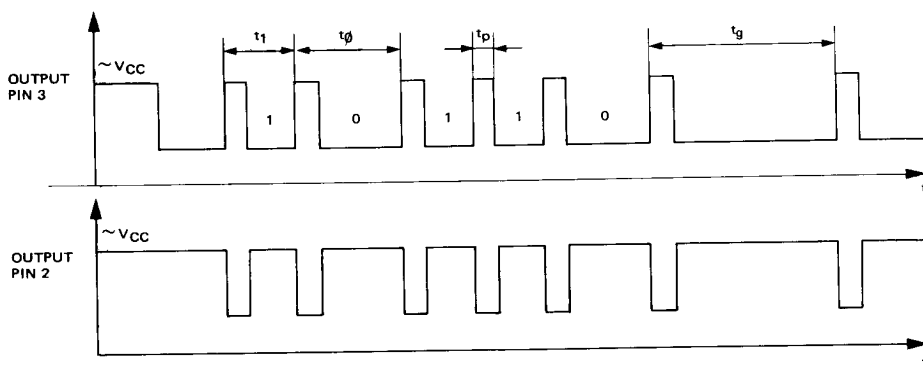
CASE CB-225



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Operating voltage range, V_4	V_{CC}	7 to 11	V
Maximum power dissipation	P_{tot}	600	mW
Maximum output current (Pin 3)	I_C	5	mA
Operating temperature range	t_{oper}	-10 to +65	°C
Storage temperature range	t_{stg}	-55 to +125	°C

OUTPUT WAVEFORMS (PPM WORD NOTATION)

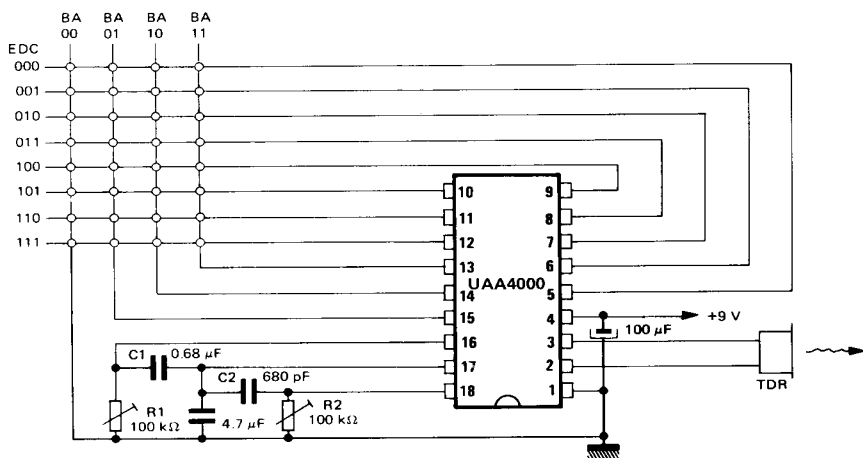
**ELECTRICAL CHARACTERISTICS** (See test circuit next page)

$T_{amb} = 25^{\circ}\text{C}$, $V_{CC} = 9\text{ V}$, $f_o = 40\text{ KHz}$, $t_1 = 18\text{ ms}$
 $4.7\text{ }\mu\text{F}$ capacitor on pin 17 (Unless otherwise noted).

Characteristic	Symbol	Min	Typ	Max	Unit
Operating supply current	Pin 4	—	8	16	mA
Standby supply current	Pin 4	—	—	30	μA
Stabilized voltage	Pin 17	3.9	4.2	4.5	V
Output current available	Pin 17	—	—	1	mA
Output voltage swing (Unloaded)	Pins 2, 3	—	8	V_{CC}	V
Output current (Peak value)	Pins 2, 3	—	—	5	mA
External switch resistance		—	—	1	$\text{k}\Omega$
External switch closing time		6	—	—	ms
External carrier oscillator (R2 required, $C_2 = 680\text{ pF}$)	Pin 18	20	40	80	$\text{k}\Omega$
External PPM resistor (R1 required, $C_1 = 0.68\text{ }\mu\text{F}$)	Pin 16	15	30	60	$\text{k}\Omega$
Ratio t_0/t_1	Pins 2, 3	1.4	1.5	1.6	
Pulse width	Pins 2, 3	t_p	2	3	4
Inter-word gap	Pins 2, 3	t_g	50	54	58

APPLICATION CIRCUITS

TEST AND ULTRASONIC APPLICATION CIRCUIT



INFRA-RED APPLICATION CIRCUIT

