

# SS0911-9

## 8 DIGITS CALCULATOR CLOCK with 12 Prefixed Rates Euro Currency Converter

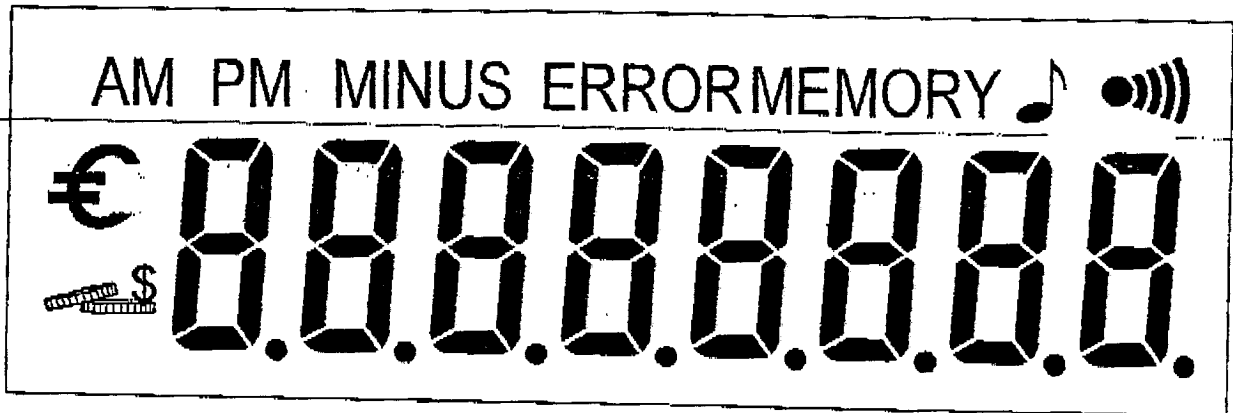
### FEATURES

- 1.5V battery operation with very low power consumption
- Real time clock
  - Hour, minute and second display. 12/24 hour display format selectable*
- Daily alarm
  - Setting of alarm time is in hour and minute*
- Calendar
  - A calendar with Month, Date, day of week*
- 8 digit calculator
  - Perform 4 basic arithmetic functions : Addition, Subtraction, Multiplication and Division with single memory*
- 12 prefixed rates Euro currency conversion selected by bonding options
- De-bounce circuit on switch inputs
- Protection against static discharge

### DESCRIPTIONS

The SS0911-9 is a single chip CMOS 8-digit calculator clock with Euro Currency Conversion feature. It is specially designed for LCD operation with 1.5V power supply, Low power dissipation and low system cost. So it makes the SE3004 suitable for desktop and pocket application.

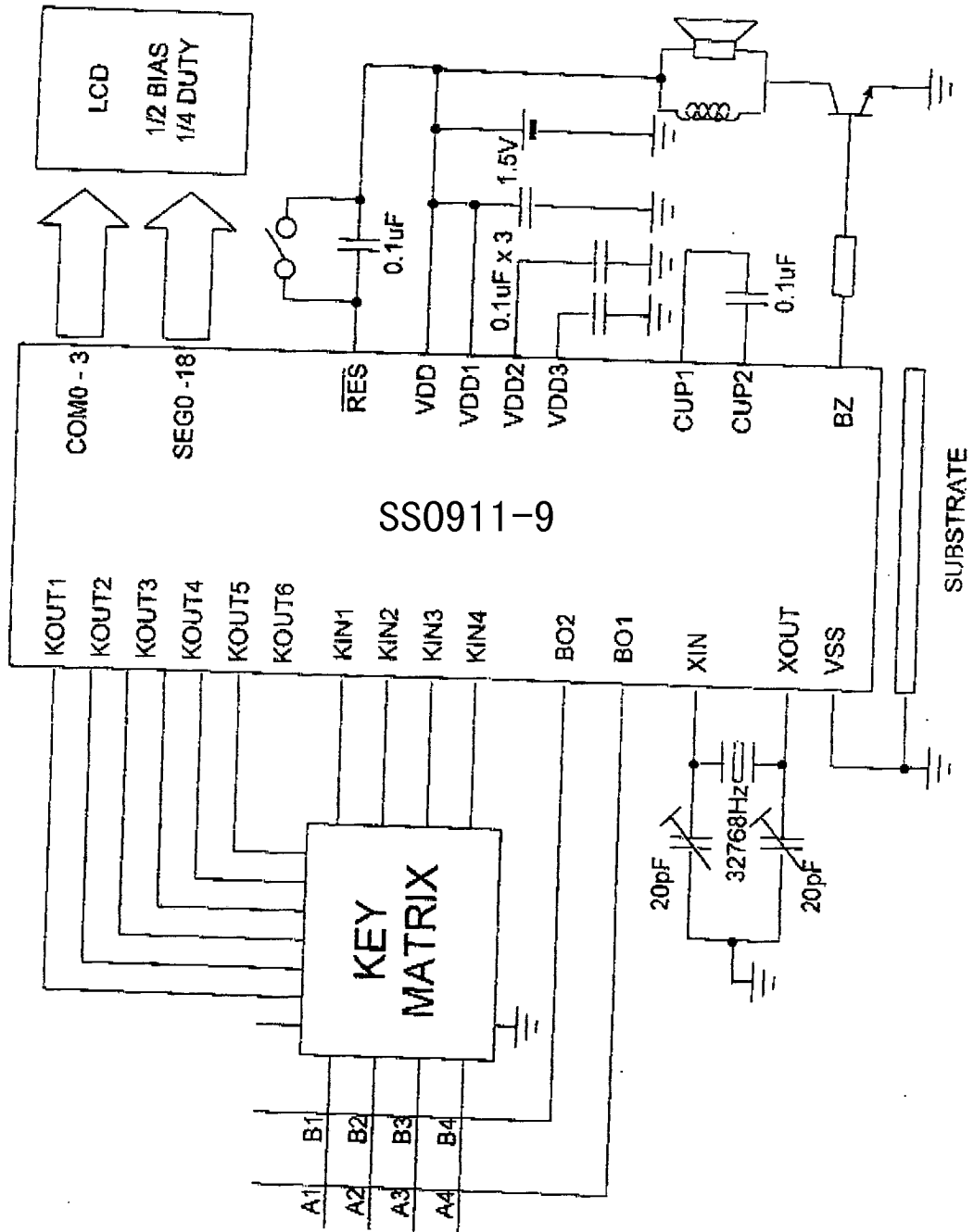
LCD LAYOUT



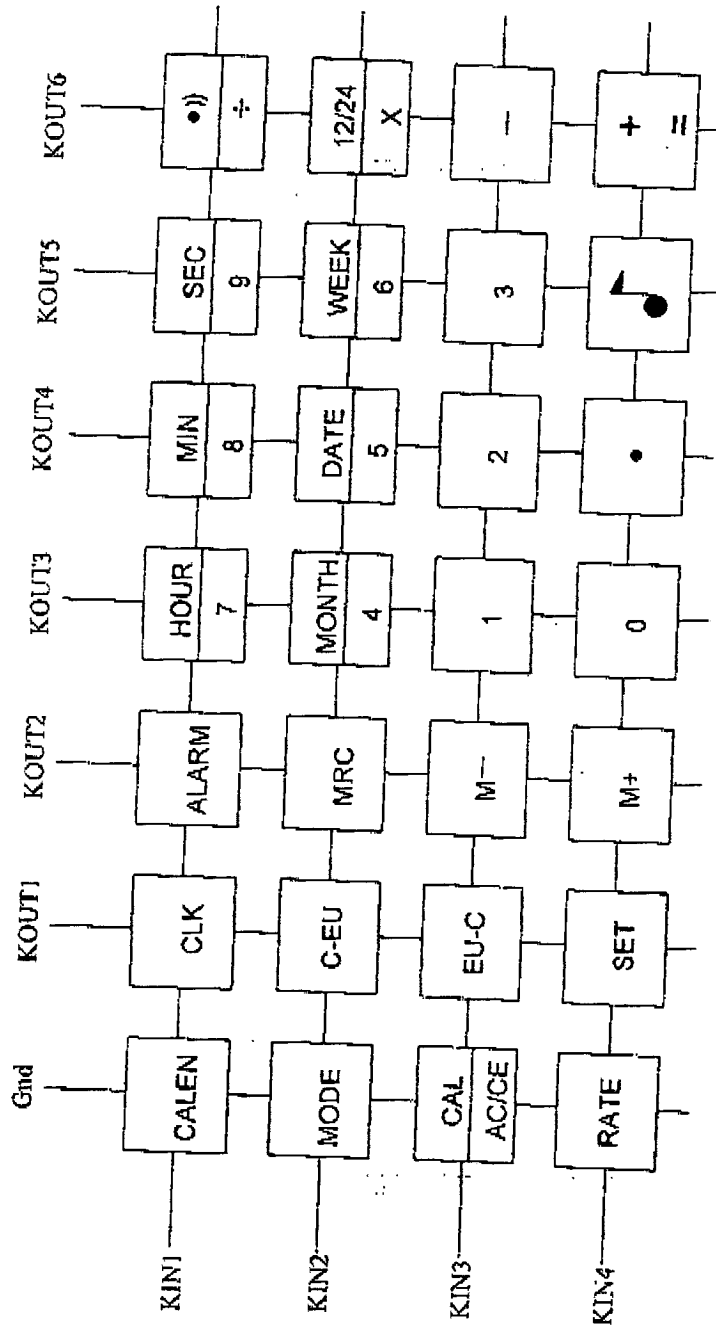
LCD CHARACTERISTICS REQUIREMENT

Parameters	Symbol	Min	Typ.	Max	Unit
Operating Voltage	Vop		4.5		V
Duty			1/4		
Bias			1/3		

APPLICATION CIRCUIT



KEYPADS



● **CURRENCY EXCHANGE OPERATION**

The Currency Conversion portion includes the following four keys :

- [C-EU] Convert the specific currency to the EURO currency  
 [EU-C] Convert the EURO currency to the specific currency  
 [SET] Set the RATE as the displayed operand  
 [RATE] Display the current RATE

● **OPERATION EXAMPLES :**

To set the RATE (1 EURO = 3.22 User preset currency)

1. Key in 3.22 ( LCD display : 3.22 )
2. Push SET key ( LCD display : 3.22, C and EURO )

To calculate 3.45 EURO = ? DEM (It should be 6.7476135)

1. Key in 3.45 ( LCD display : 3.45 )
2. Push "EU-C" key ( LCD display : 6.75, and C ) < auto roundup >

To calculate 20 DEM = ? EURO (It should be 10.225837 EURO)

1. Key in 20 ( LCD display : 20 )
2. Push "C-EU" key ( LCD display : 10.23, and EURO ) < auto roundup >

To check the Rate :

1. Push AC key to clear data ( LCD display : 0 )
2. Push "C-EU" or "EU-C" key ( LCD display : 1.95583, C and EURO )

- **SELECT THE PRESET RATE**

The PRESET RATE can be selected by bonding option.

CURRENCY	PRESET RATE	A1	A2	A3	A4	B1	B2	B3	B4
DEM	1.95583	1	0	0	0	1	0	0	0
BEF	40.3399	1	0	0	0	0	1	0	0
LEF	40.3399	1	0	0	0	0	0	1	0
ESP	166.386	1	0	0	0	0	0	0	1
FRF	6.55957	0	1	0	0	1	0	0	0
IEP	0.787564	0	1	0	0	0	1	0	0
ITL	1936.27	0	1	0	0	0	0	1	0
NLG	2.20371	0	1	0	0	0	0	0	1
ATS	13.7603	0	0	1	0	1	0	0	0
PTE	200.482	0	0	1	0	0	1	0	0
FIM	5.94573	0	0	1	0	0	0	1	0
** UNITY	1	0	0	0	0	0	0	0	0

Note : 0 = OPEN , 1 = CLOSE

\*\* Currency exchange without 2 decimal point roundup.

- **BACK TO DEFAULT RATE**

The user can reset the rate to the preset value by pressing SET key during rate checking.

at  $T_a = 25^\circ\text{C}$ ,  $V_{DD} = 1.5\text{V}$

Parameters	Symbol	Min	Max	Unit
Maximum Supply Voltage	$V_{DD}$	-0.3	+7.0	V
Maximum Input Voltage	$V_{in}$	-0.3	VDD	V
Maximum Output Voltage	$V_{out}$	-0.3	VDD	V
Maximum Operating Temperature	$T_{opg}$	0	70	$^\circ\text{C}$
Maximum Storage Temperature	$T_{stg}$	-55	150	$^\circ\text{C}$

#### ELECTRICAL CHARACTERISTICS

at  $T_a = 25^\circ\text{C}$ ,  $V_{DD} = 1.5\text{V}$

Parameters	Symbol	Min	Typ.	Max	Unit
Operating Voltage	VDD	1.2	1.5	1.8	V
Operating Current	$I_d$		4	12	$\mu\text{A}$
Standby Current	$I_{st}$		4	6	$\mu\text{A}$
LCD Supply Voltage	$V_{lcd}$		3		V
LCD Frame Frequency	$F_{lcd}$		32		Hz
Operating Frequency	$F_{opg}$		32.768		kHz

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