

***ETL FORD calculator unit
Win98/Win2000/WinXP***

**ODESSA
2002**

1.1 What You'll Need

The following section describe items that are you need to use the Ford calculator unit .

Hardware checklist

Serial port dongle - RS232 serial port required

Ford Reset Tool E13 + RS485 or IIC interface cable

Software checklist

OS -MS-Windows (Win98, Win2000, WinXP)

Software tool -Ford Calculator software (Ford Calculator.exe)

1.2 Installing the Ford Calculator software

The Ford Calculator software designed for support Ford Car Radios, started with M - prefix.*

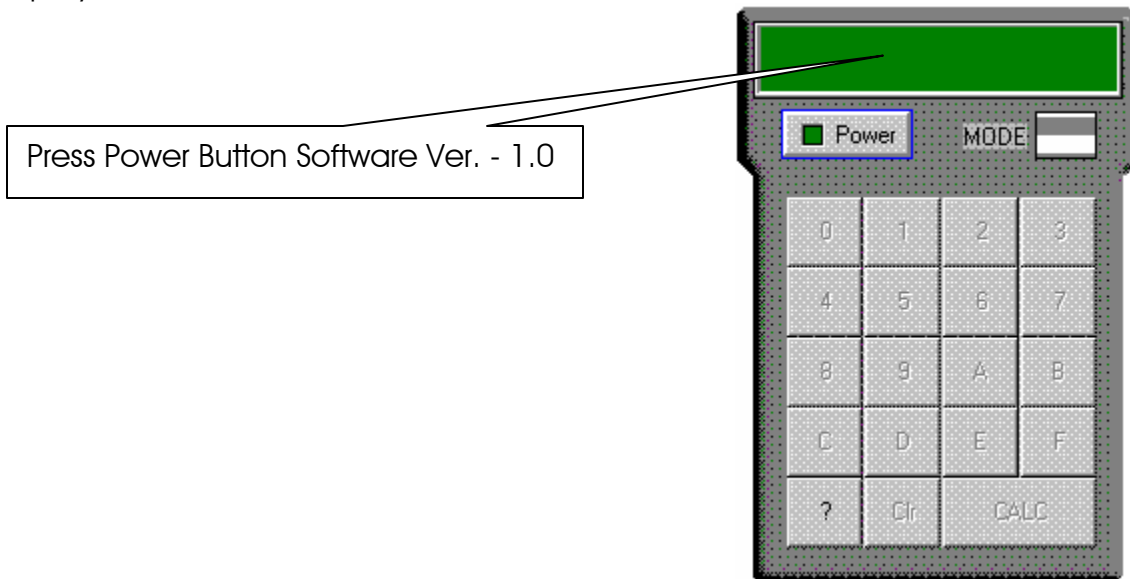
To install the Ford Calculator software, follow these steps:

- 1) Insert ETL CD into your CD-ROM drive **
- 2) Close all running application
- 3) Follow prompts to install software to your hard drive
- 4) Restart your PC when installation completed (optimal)

1.3 Installing the Ford Calculator dongle

Attach the Ford Calculator dongle to the host computer RS-232 serial port (see APPENDIX 1 for standard differences)

Start the Ford Calculator software. After start you should see similar as displayed:

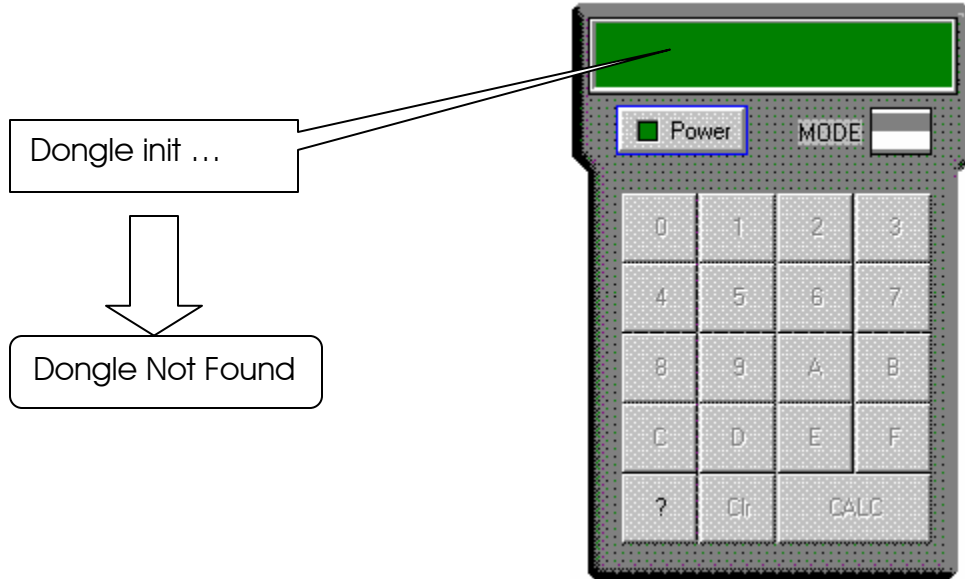


***NOTE:** Bonus algorithms C and L applied to 4 digit coded models only and not fully tested , "Old" algorithm apply to old 3 digit coded model started without prefix. TMS370, Ns77007 algorithms apply to recalculate

code number according with dump data contents.

****NOTE:** Download Ford Calculator .exe from <http://www.etlweb.com>

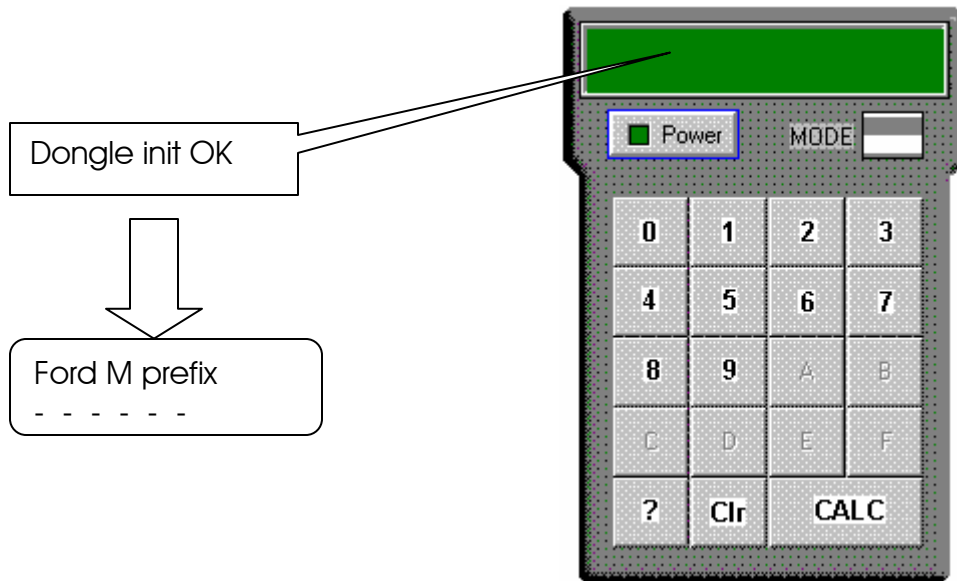
Follow to displayed instructions (Click on Power button), if case of errors you should see message similar to this one *******:



*****NOTE:** Check Serial Port connection (RS-232 standard).

Don't attach Ford Calculator dongle to Parallel Port. Improper unit connection of unit may cause damage to your Ford Calculator dongle or your PC!

In order to correct initialization you should see activated keyboard buttons and message similar to this one:



Read the serial number



Once you are happy with the code entered, then press the "CALC" button, and get the code number.

For example:
Entered: 135269 - "CALC" - CODE – 6948

If you make a mistake, then you can press the "Clr" Clear button.

- Button meaning:
- "Power" – init hardware and software buttons
 - "MODE" – switch between M prefix and bonus algorithms
 - "0", "1", "2", "3", "4", "5", "6", "7", "8", "9", "A", "B", "C", "D", "E", "F" – serial number input (or part of dump contents) buttons.
 - "?" – This manual button
 - "Clr" – Clear button
 - "CALC" – Calculate button

If the radio is locked out because a lot wrong attempts have been entered, then the display on the radio will show "Locked 10" or "Locked 13" use Ford Unlocker Reset tool E-13 supplied in complete with Ford Calculator.
(See Ford Unlocker Reset tool manual how to use this unit)

1.4 Bonus features

In additional the Ford Calculator can be useful, when serial number is unreadable and applied to old Ford car radios.

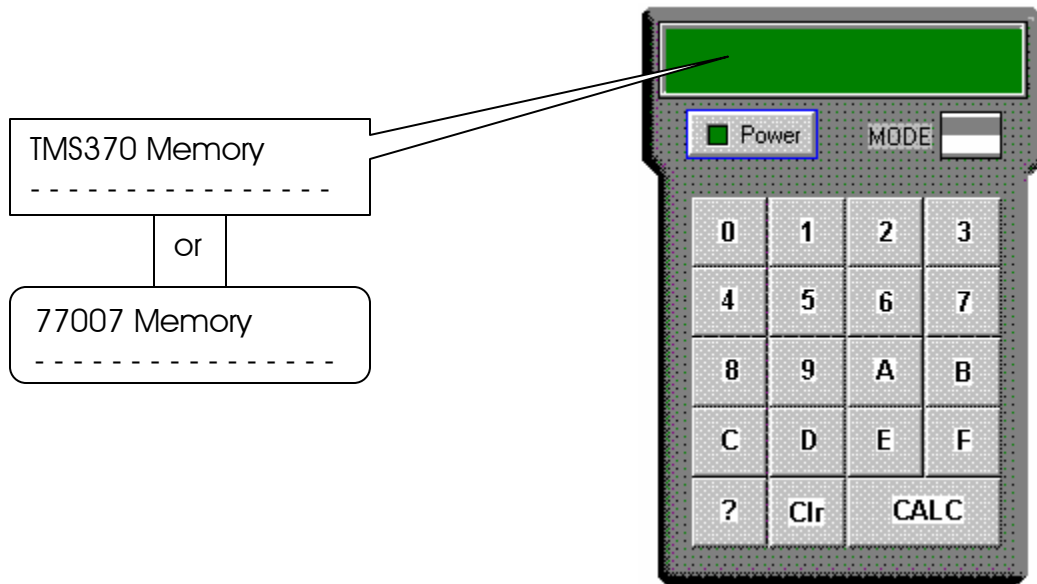
Click on "MODE" button to activated bonus modes:

- TMS370 memory
- NS7707 (NS 7705) memory
- "OLD" FORD
- FORD C, L prefix *

When TMS370 memory algorithm or 7707 memory algorithm selected all keyboard buttons activated.

TMS370 memory example:

Read the EEPROM contents of TMS370C758A (Ford 2006), use any



accessible EEPROM programmer (ETL TMS370Cx5x,Cx6x eeprom programming tool). After reading you should see a dump contents similar to this one:

```

____ 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F
00 FE 00 00 00 00 00 00 00 00 00 00 00 00 00 00
10 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
20 49 30 E7 05 26 7D 03 32 33 36 BC 7A 00 00 00 00
30 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
40 F6 47 00 17 00 DC 00 00 00 00 00 00 00 00 00 00
50 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
60 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
70 00 85 36 00 00 00 00 00 00 00 00 00 00 00 00
80 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
90 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
A0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
B0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
C0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
D0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
E0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
F0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

```

Enter marked row from the dump contents, for this case code number is 3608.

NS 77007 (NS77005) memory example:

Read the EEPROM contents of NS77007 or NS77005 (Ford 2006), use any accessible EEPROM programmer . After reading you should see a dump contents similar to this one:

```
____ 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F
00 | 00 00 00 00 00 00 00 00 00 00 00 00 00 06 00 00 00
10 | 75 AB 55 2D 32 44 FC 04 9F F4 AD A8 EC 91 31 FF
```

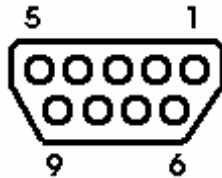
Enter marked row form the dump contents, for this case code number is 4652.

For modes "Old", Ford C,L Prefix use procedure like similar as M Prefix series.

APPENDIX 1

Serial RS-232 Connector (DB – 9)

Connector Pin	Mnemonic	Description
1	DCD	DATA CARRIER DETECT
2	RX	RECEIVE DATA
3	TX	TRANSMIT DATA
4	DTR	DATA TERMINAL READY
5	GND	GROUND
6	DSR	DATA SEND READY
7	RTS	REQUEST TO SEND
8	CTS	CLEAR TO SEND



Serial RS-232 Connector (DB – 25)

Connector Pin	Mnemonic	Description
8	DCD	DATA CARRIER DETECT
3	RX	RECEIVE DATA
2	TX	TRANSMIT DATA
4	DTR	DATA TERMINAL READY
1	GND	GROUND
6	DSR	DATA SEND READY
4	RTS	REQUEST TO SEND
5	CTS	CLEAR TO SEND

