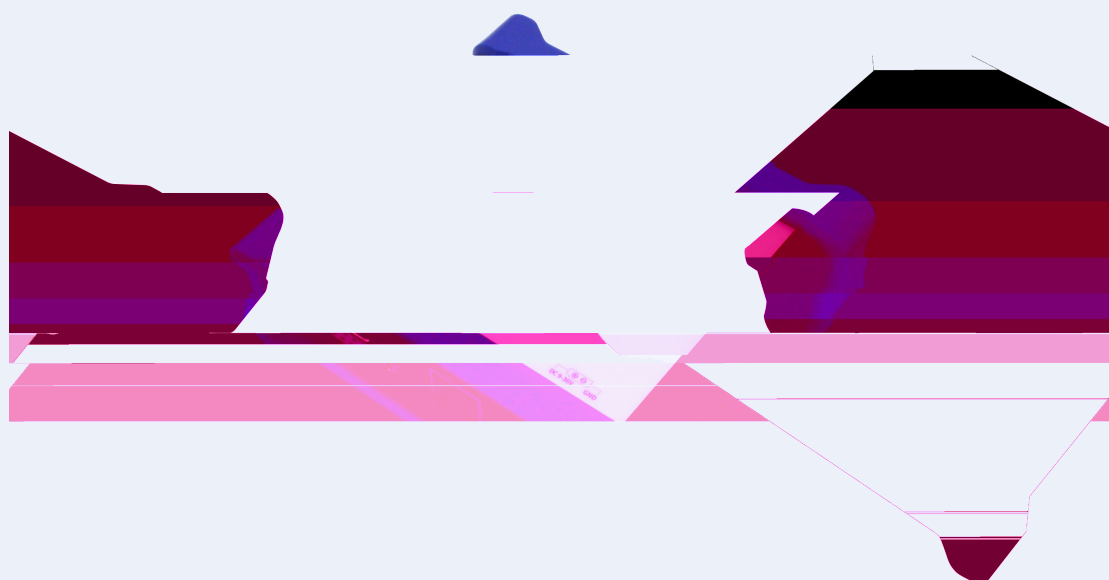




# User Manual

|      |        |        |       |       |       |      |
|------|--------|--------|-------|-------|-------|------|
| 1002 | CAN FD | 2, LIN | 2, DO | 2, DI | 2, AI | 2, G |
|------|--------|--------|-------|-------|-------|------|

: 021-59560506 E- : @ .

- CAN/CAN FD/LIN

- G ☐

- 

- M -

- D -

- 2- CAN/CAN FD 2- LIN

- 2 , 2 , 1

’ ☐

|                    |    |
|--------------------|----|
| F & I O .....      | 2  |
| A .....            | 3  |
| H .....            | 3  |
| 1. I .....         | 5  |
| 1.1. ....          | 5  |
| 1.2. E .....       | 7  |
| 1.3. D .....       | 9  |
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| 1.5. ....          | 11 |
| 1.6. L .....       | 12 |
| 2. A E .....       | 14 |
| 2.1. C .....       | 14 |
| 2.2. H C .....     | 16 |
| 2.2.1. CAN.....    | 16 |
| 2.3. E .....       | 17 |
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| 2.3.3. L I .....   | 26 |
| 3. A .....         | 41 |
| 3.1. I .....       | 41 |
| 3.2. B I .....     | 45 |
| 4. I M .....       | 49 |

1002 - CAN (FD) LIN 2 CAN FD  
2 LIN . I CAN FD 5 M ( 8 M  
- ) LIN 0 20 .  
I/O ,  
. I 64 GB  
. - , 1002  
C M , 1002 DBC  
A ML , , CAN  
1002 C E , -  
-  
A I L ,  
C++, C#, L IE ,  
.

I :

- CAN FD/LIN M
- C - ( )

 . F  
L , .



| C I | J45 E |
|-----|-------|
|     | M - - |

D C - , -

C D- , 9-

DC ; LIN

C 1.6

E D  $\pm 4$  ,  $\pm 15$

E M M

D A . 113 × 98 × 38

O -40 +80

O H 10% 90% H (

|   |                                      |
|---|--------------------------------------|
|   | LIN 1.3, LIN 2.0, LIN 2.1, LIN J2602 |
|   | LDF ; , ,                            |
| E | , 12 36                              |



| C  | DB9 F         |
|----|---------------|
| DO | H - : 0 ; - : |
| DI | I : 0 5       |
| AI | I : 0 24      |



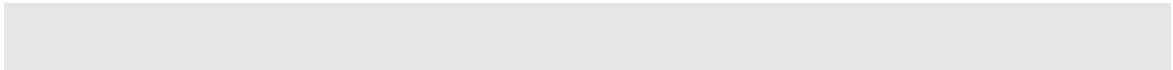
| O | DC / BA | 9   | 12  | 36  |  |
|---|---------|-----|-----|-----|--|
| C | DC / BA | 1.6 | 1.6 | 2.5 |  |



|  | CANH, CAHL | -58 | -- | 58 | DC |
|--|------------|-----|----|----|----|

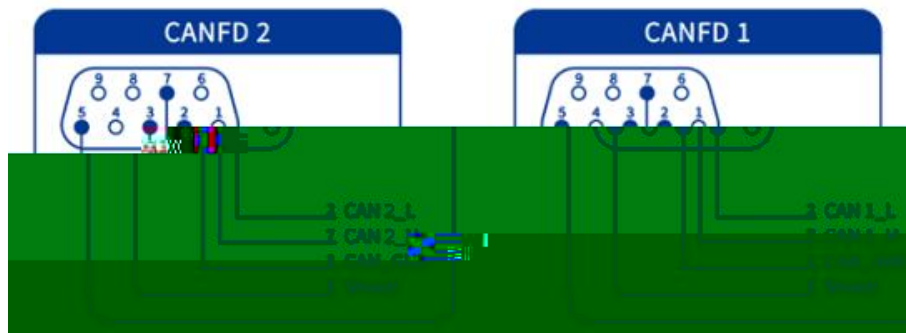


| B | LIN GND | -30 | -- | 30 |  |
|---|---------|-----|----|----|--|

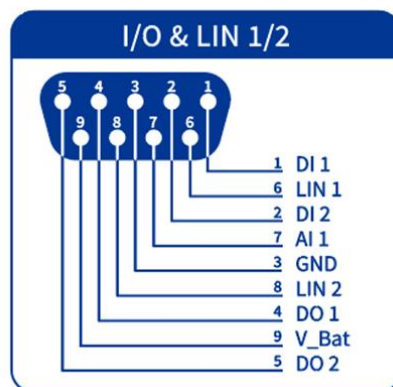




F 1-2 H I



F 1-3 L (CAN FD)

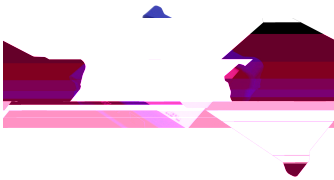


F 1-4 L (LIN, I/O)

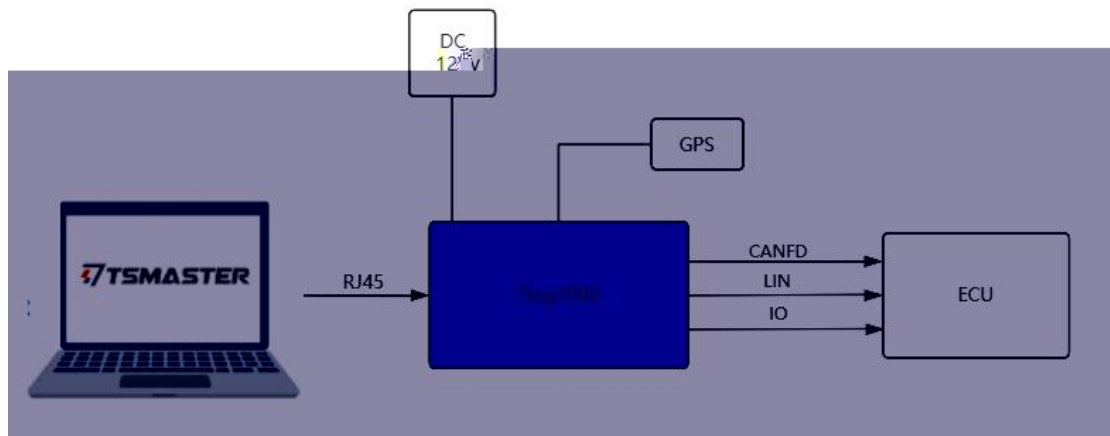
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F 2-1 E



F

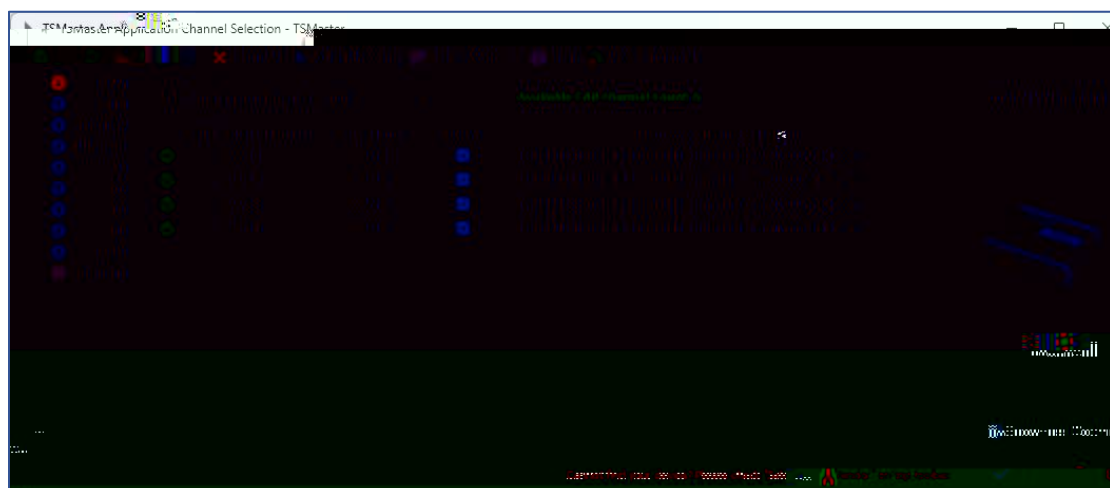
M

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1. C C J45 E .

2. I M , H → C C . C  
CAN LIN .

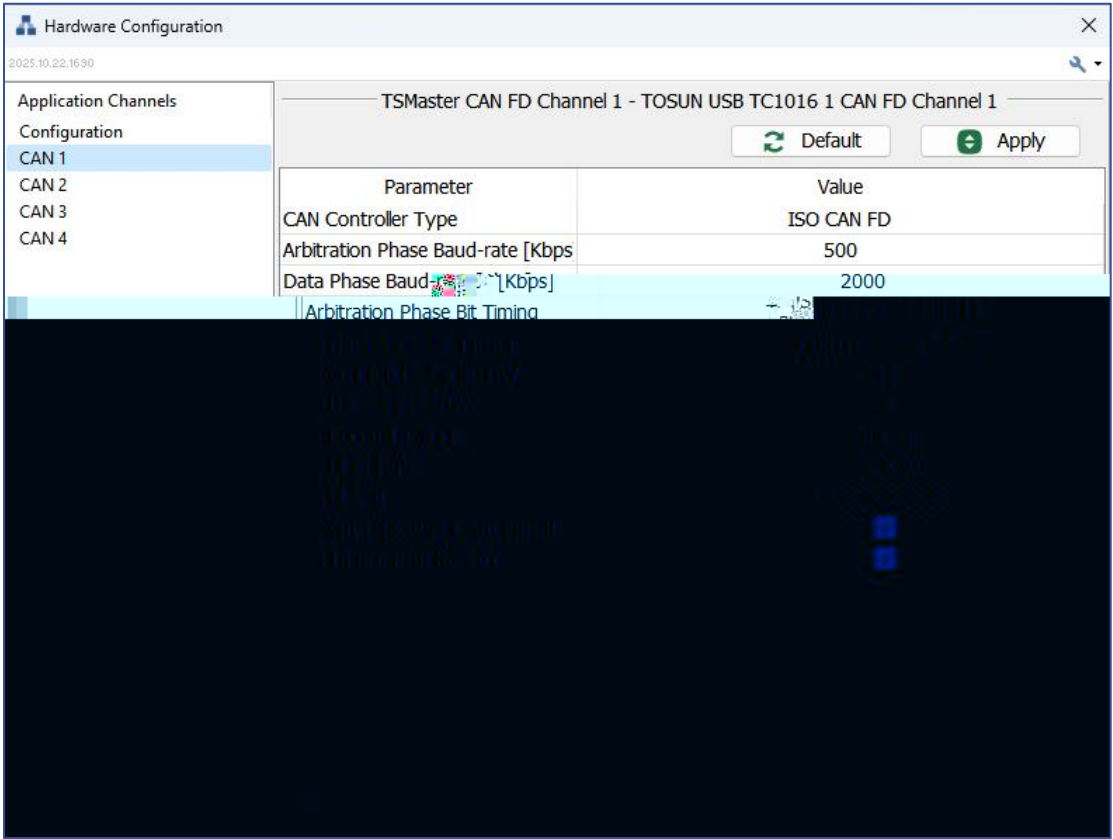


F 2-2 C

3. N H → N H H C

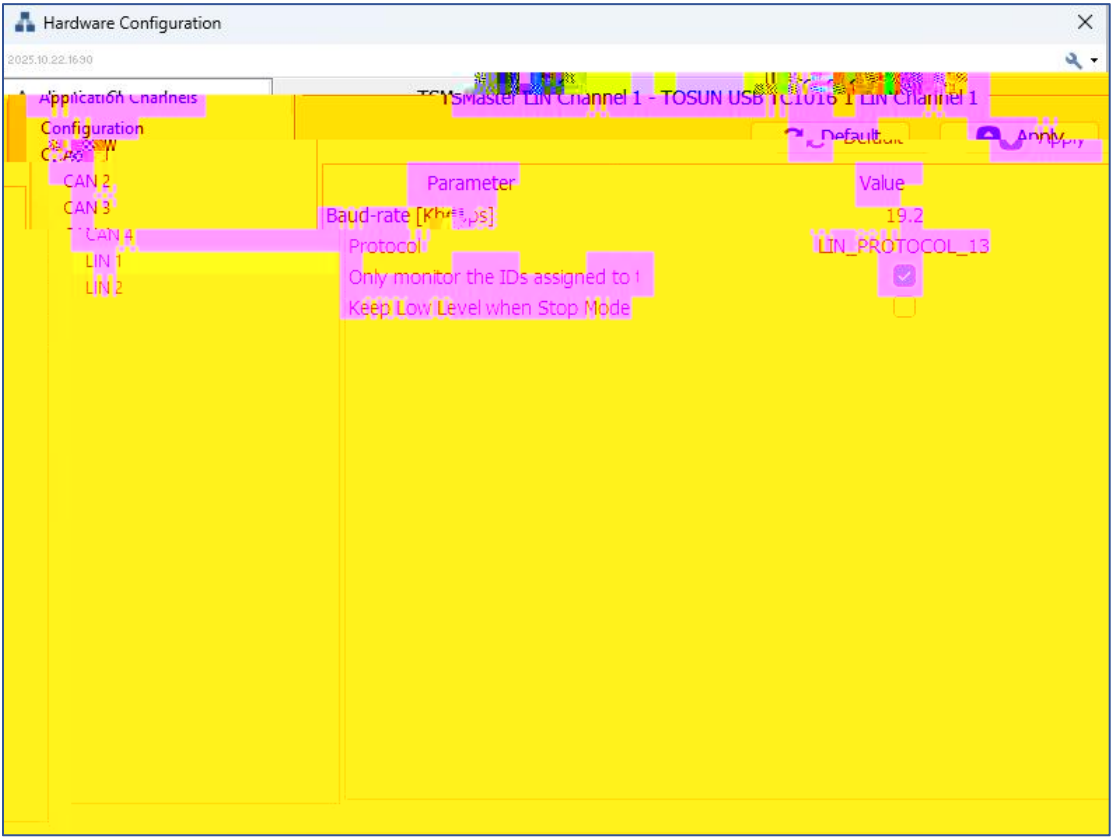
， CAN LIN .

CAN :



F 2-3 C C (CAN)

LIN :



F 2-4 C C (LIN)

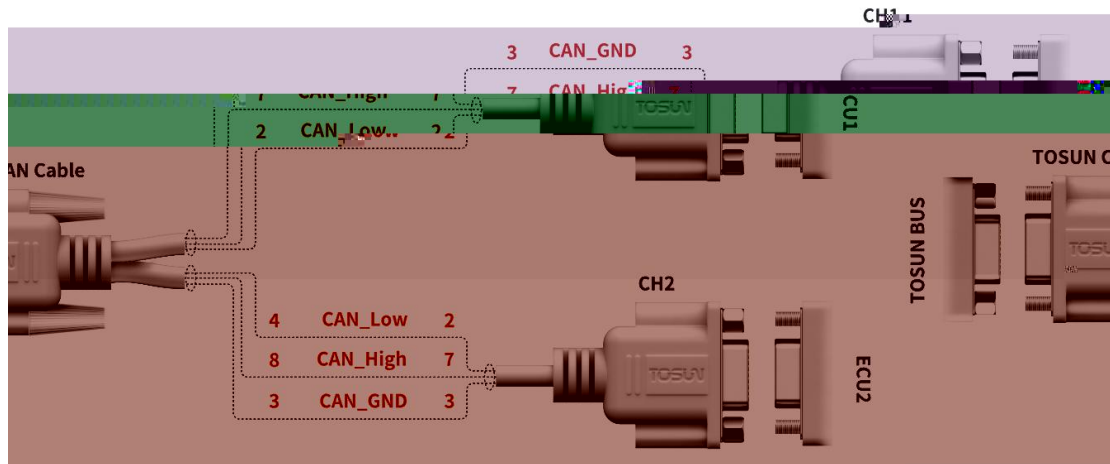
4. C A → .

DB9 F D M C (CAN)

D- 9- .

DB9 F D M C

(CAN) :



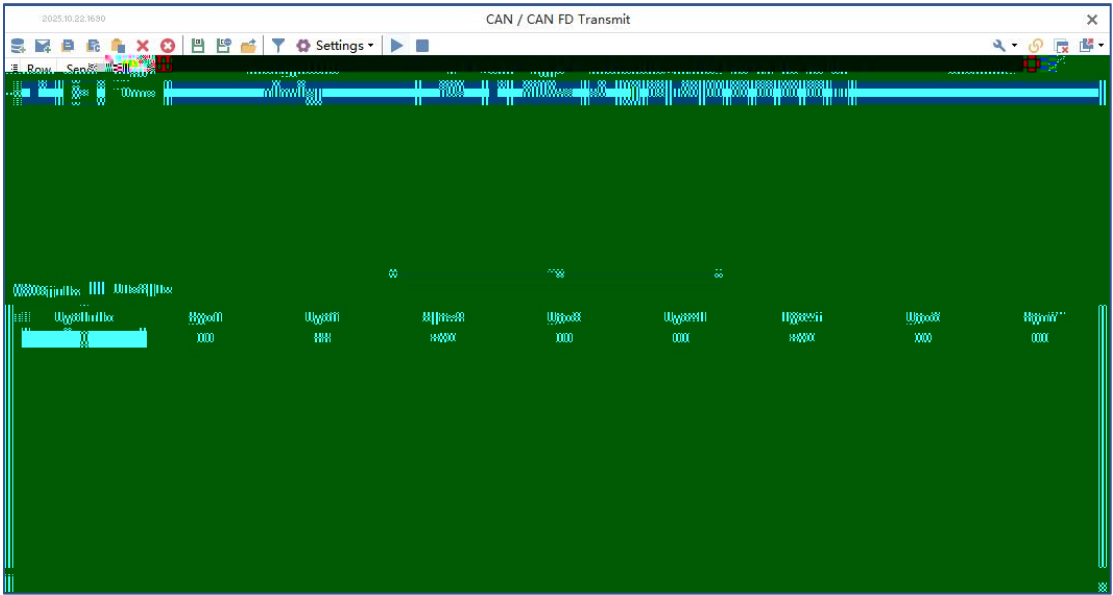
F 2-5 DB9 F -D M C (CAN)

**i** A - , 1002 CAN LIN  
CAN LIN .

A ,  
CAN/CAN FD M M - . M  
CAN/CAN FD M I .

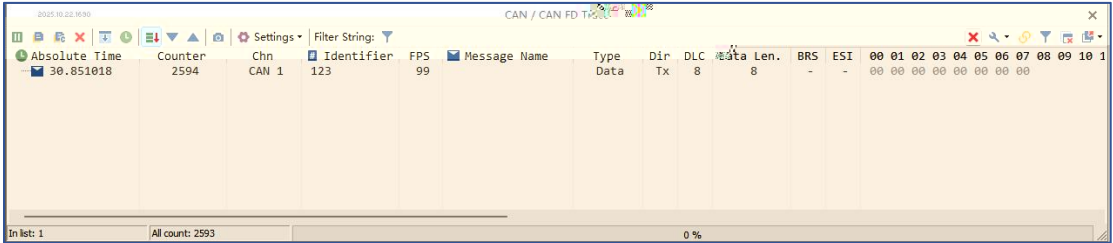


1. A , A D A M  
A CAN/CAN FD CAN/CAN FD  
.A , .



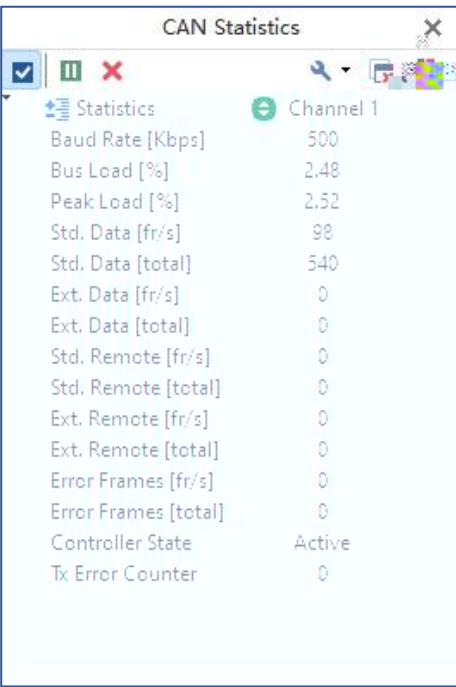
F 2-6 A CAN M

2. M A D A M A  
A CAN/CAN FD M I .



F 2-7 CAN M I

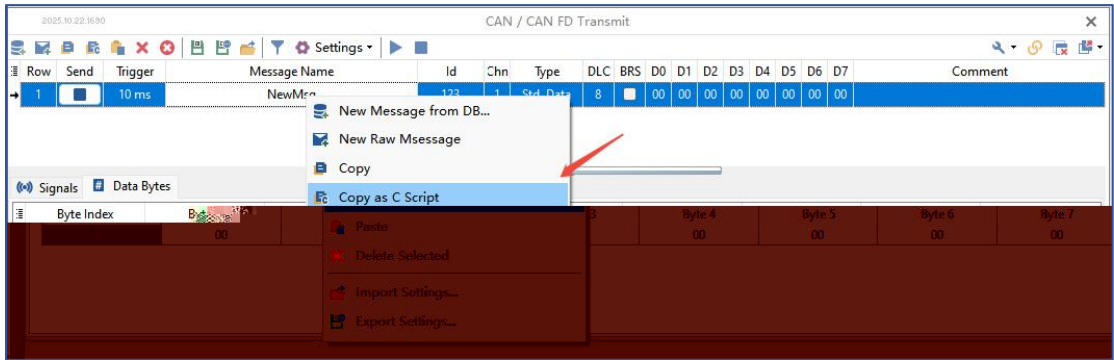
3. B A D A CAN  
( ).



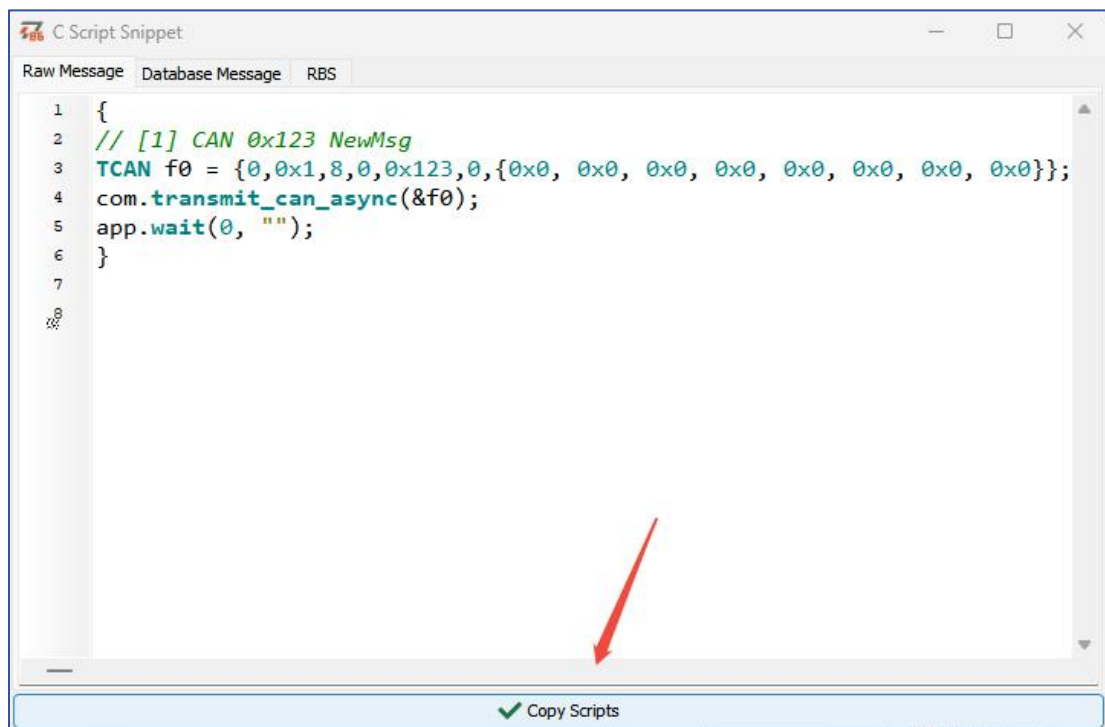
F 2-8 CAN



1. I CAN/CAN FD , - C C  
. C .

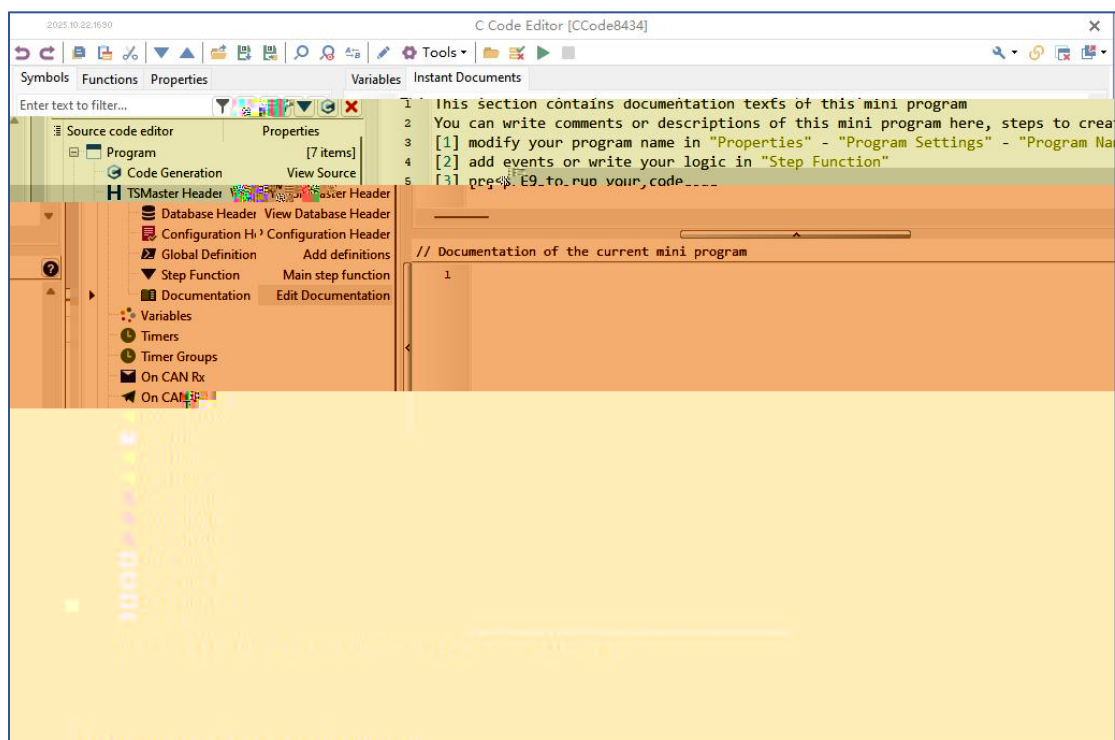


F 2-9 A C C



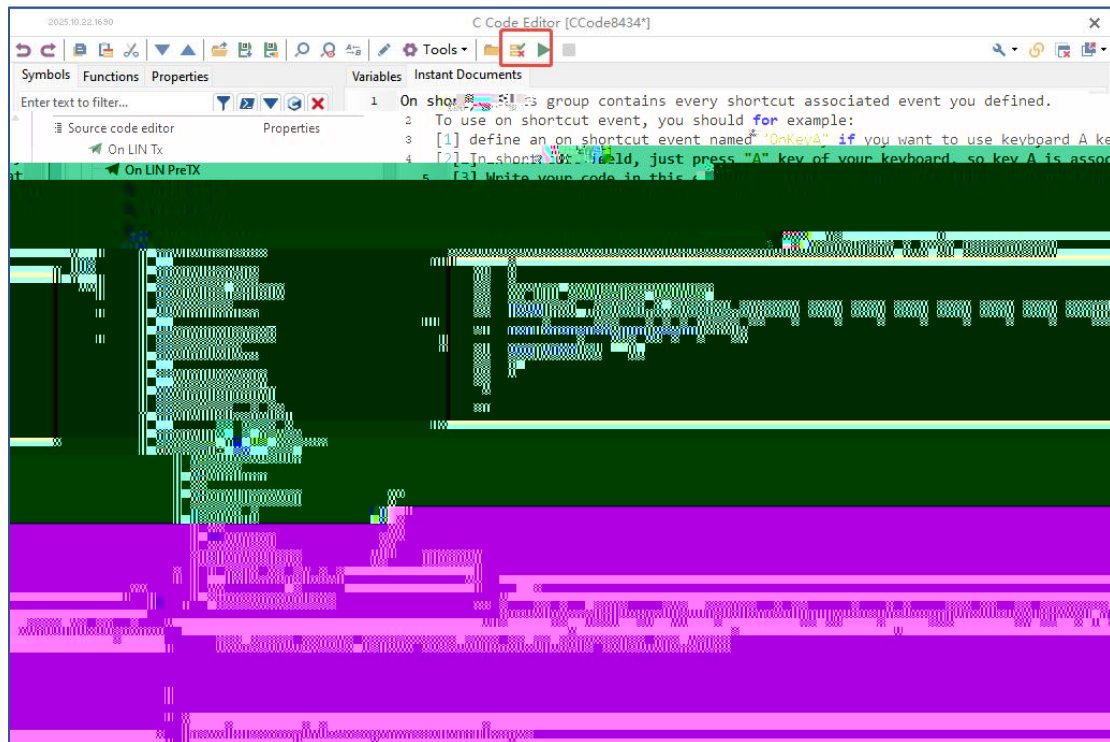
F 2-10 C C C

2. I - , D → M - → A CM - E  
C .



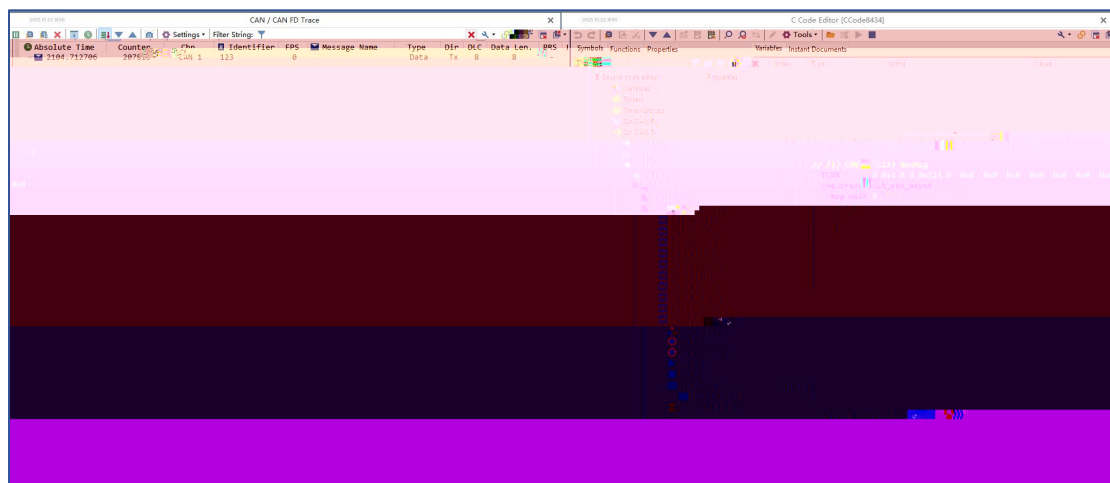
F 2-11 A CM - E

3. I CC E , ( . ., K A),  
 , C .



F 2-12 B C M - (CAN)

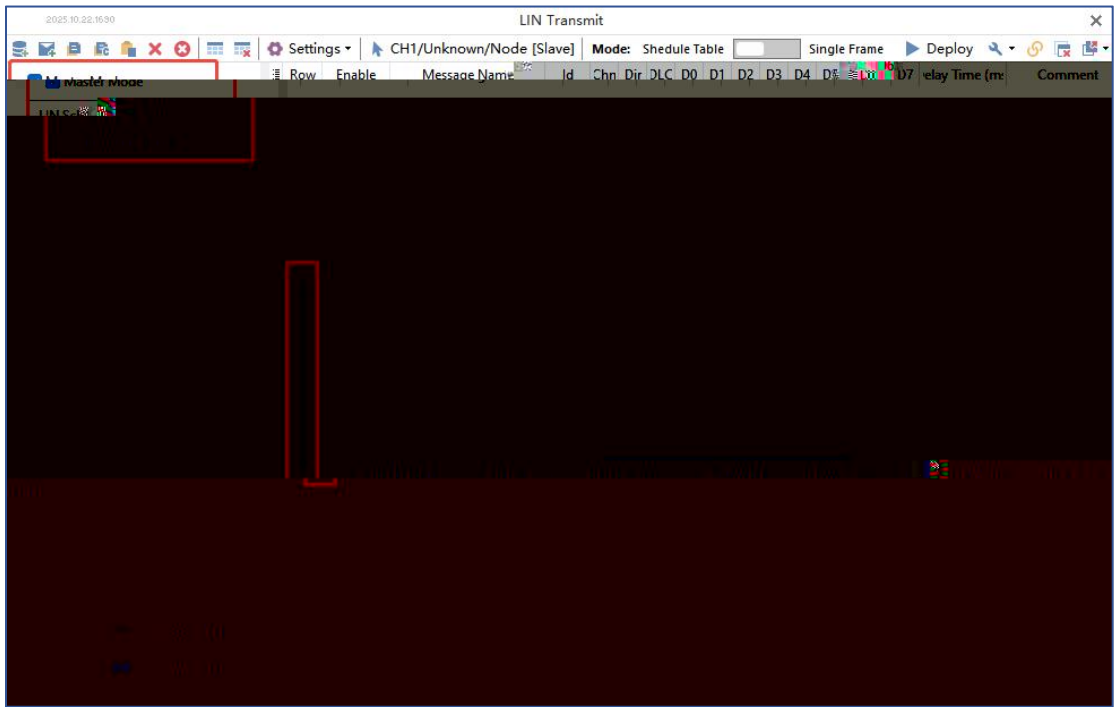
4. E K A , CAN .



F 2-13 CAN M C M -

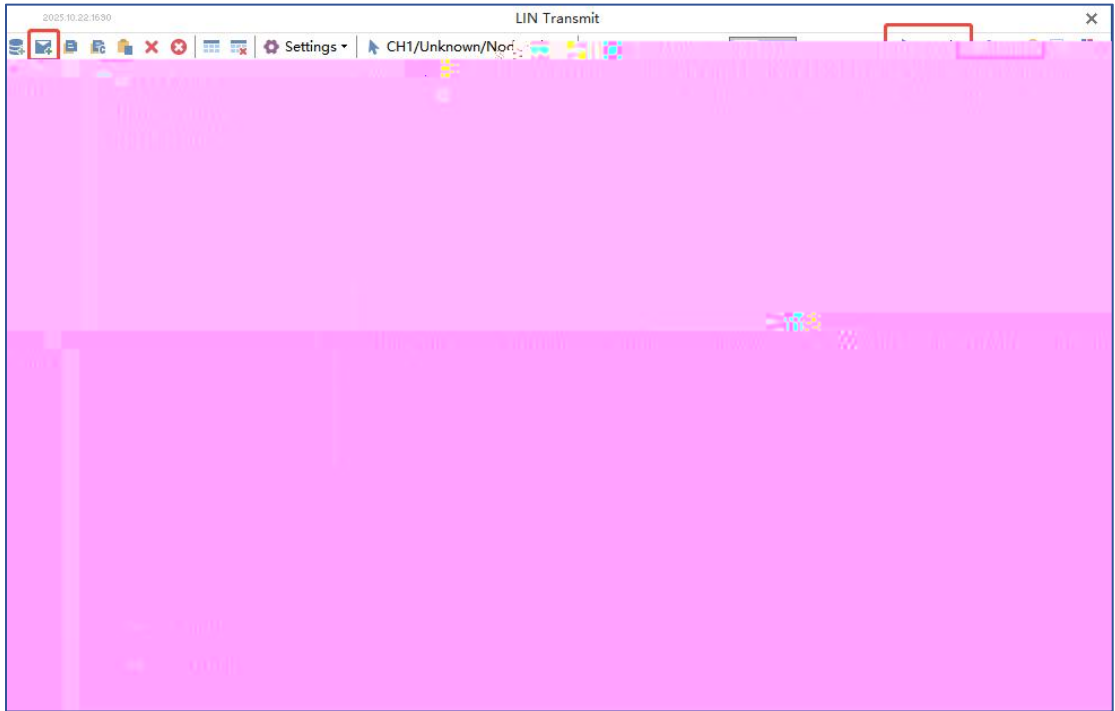


1. C A → D A → M → A LIN  
DIN L !



F 2-15 C LIN M / M

3. A LIN ( ), D .



F 2-16 A LIN M



N

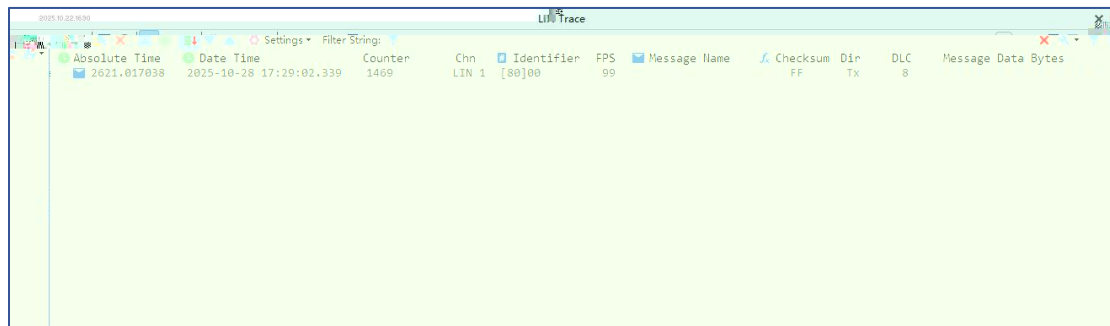
,

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I

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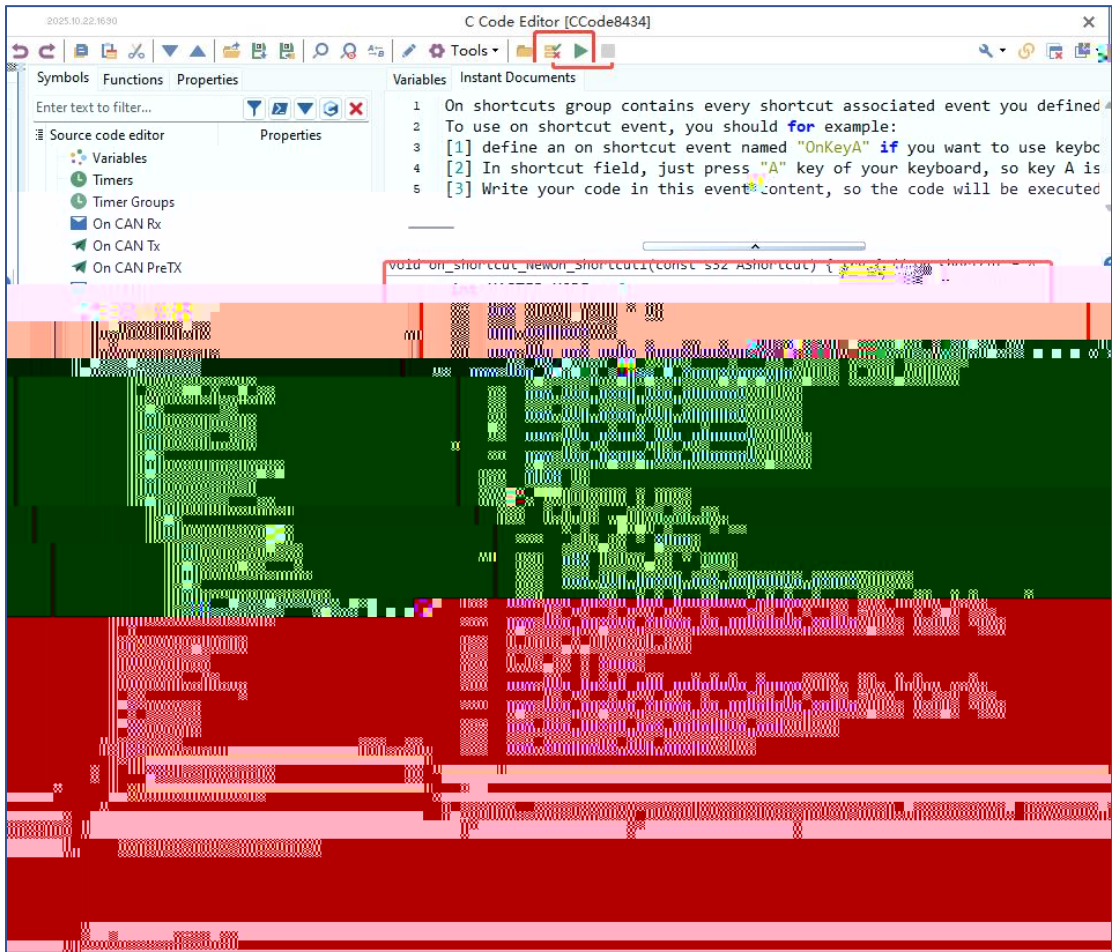
4. C A D A M I A LIN M I  
LIN .



F 2-17 LIN M I

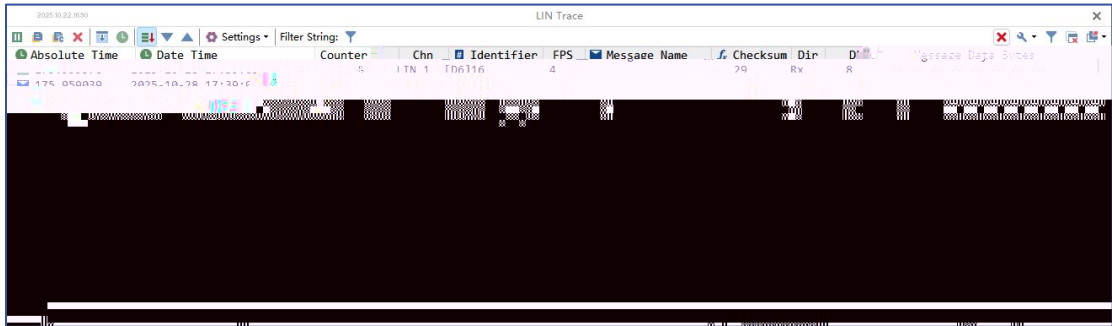


1. I C C E , ( . ., K A) .  
C .



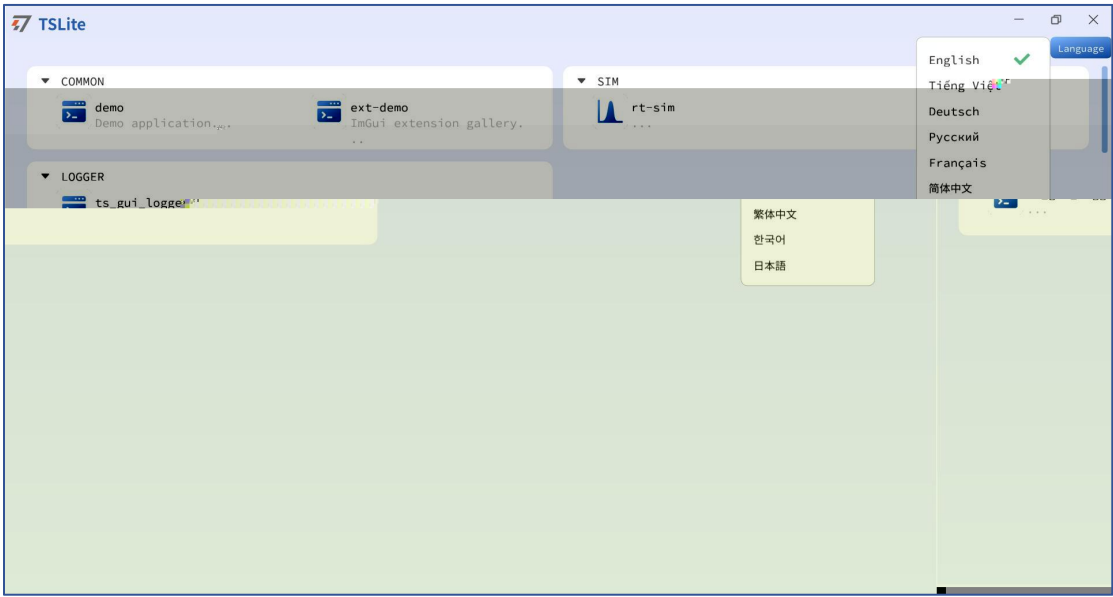
F 2-18 B C M - (LIN)

2. K A , LIN



F 2-19 LIN M C M -

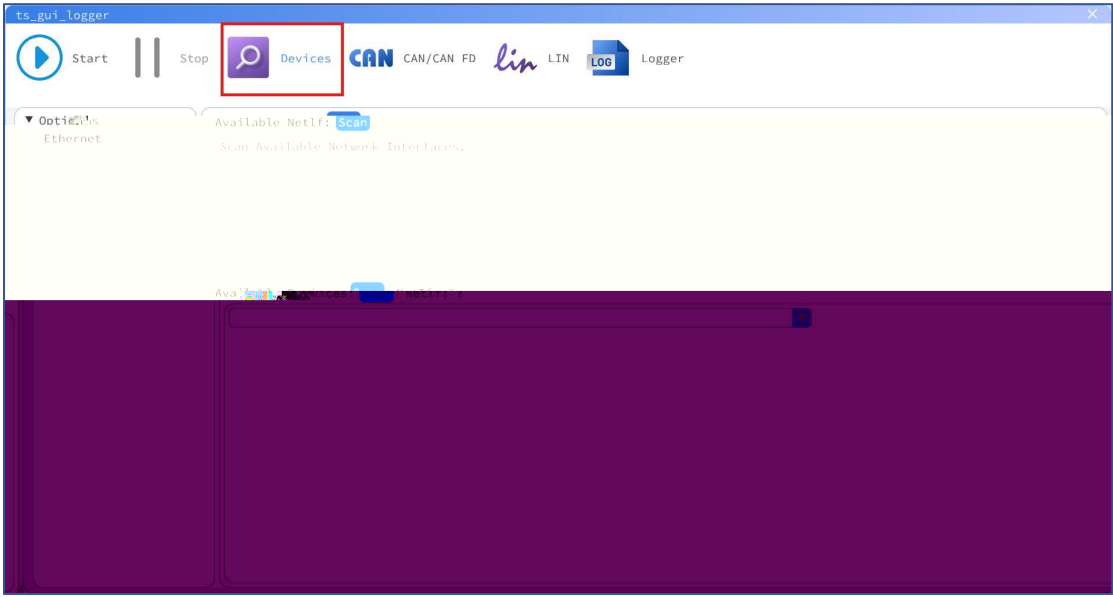
O N M



F 2-21 L

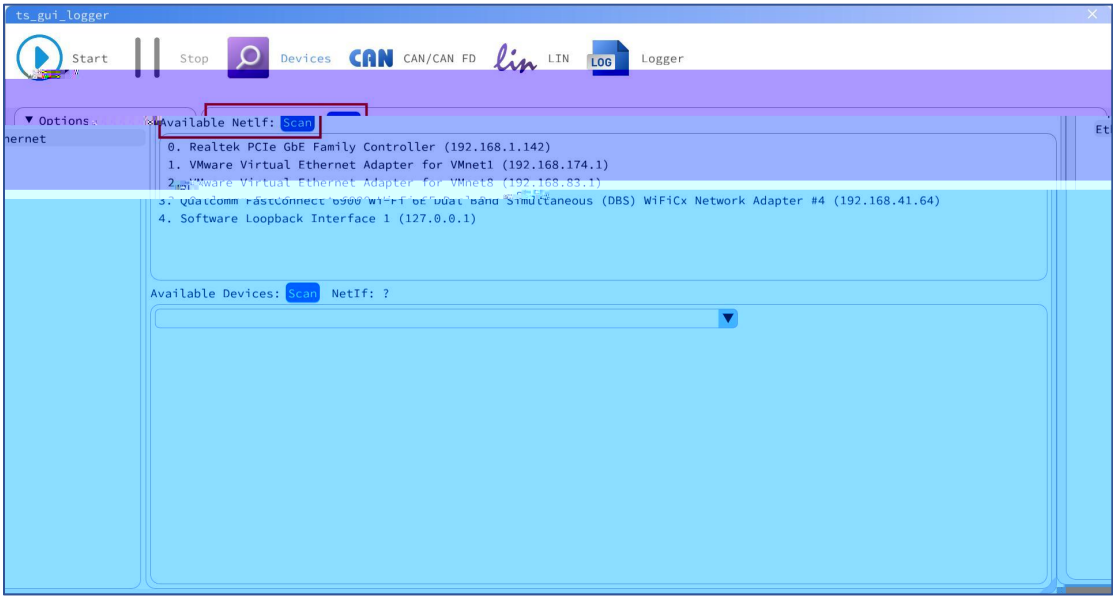
 N :D , NIC I  
I .

1. C D . C ,  
E . ,



F 2-22 D M

2. : C  
C.



F 2-23 N I

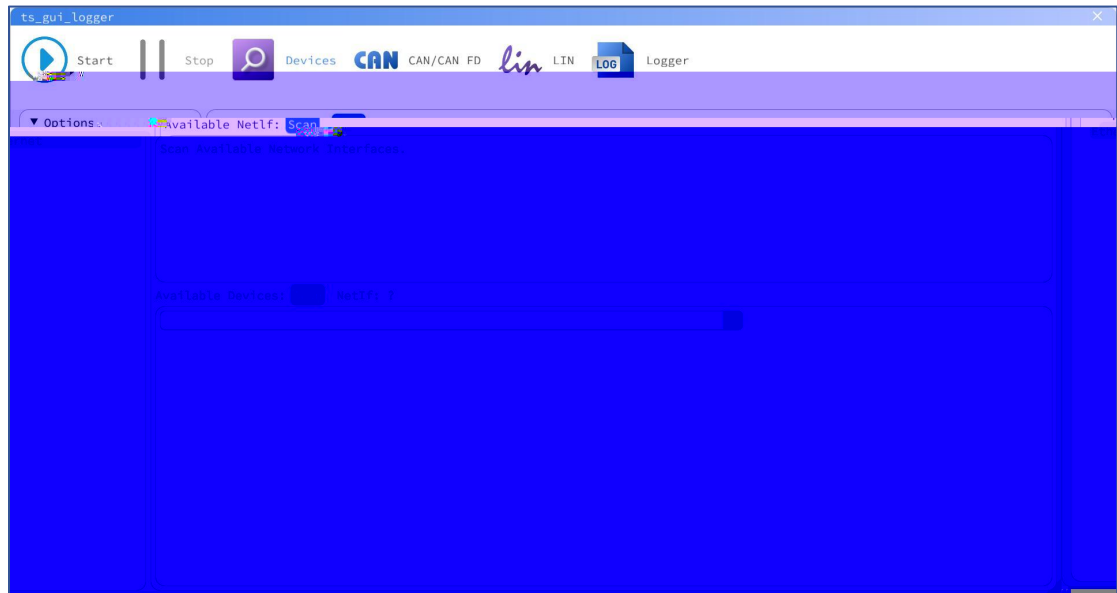
3. : C

, - .



F 2-25 O D

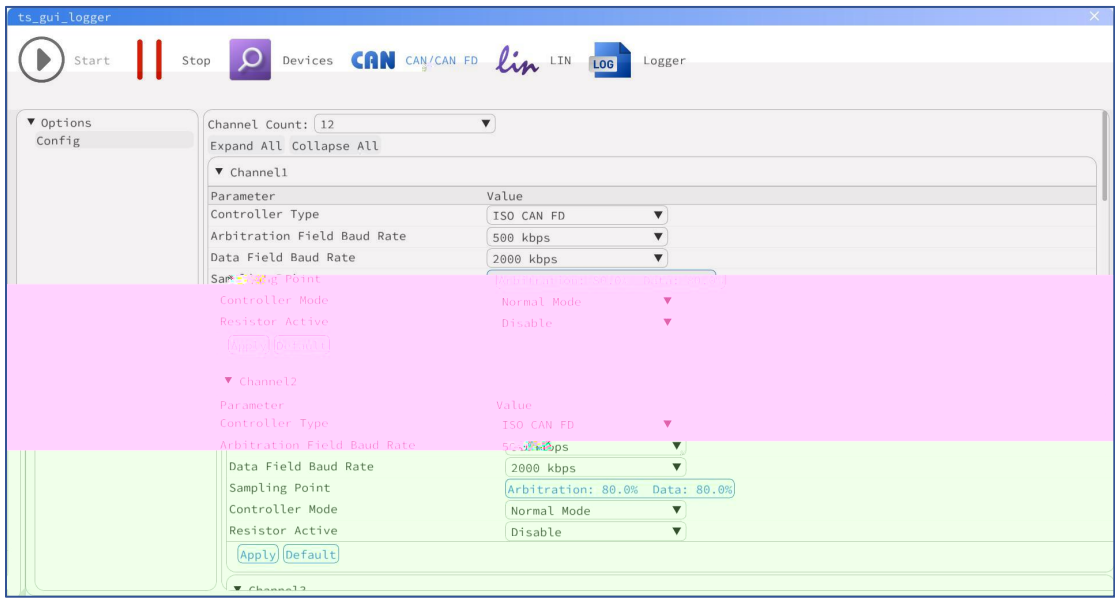
5. C :C . ( ),



F 2-26 C D

C CAN/CAN FD

- . . C A . C D .



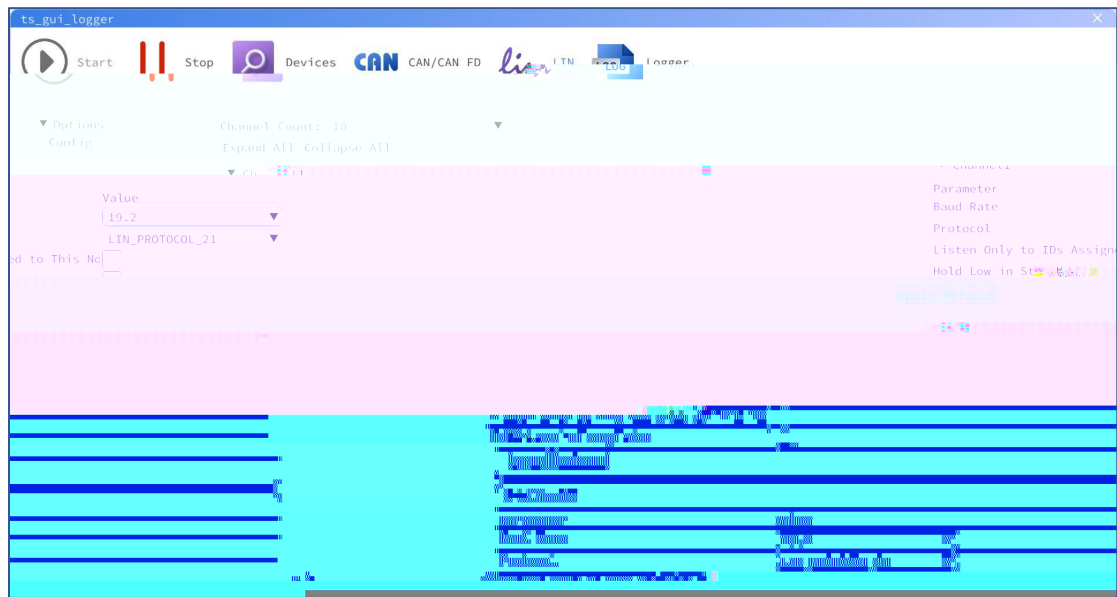
F 2-27 CAN C C

C LIN

. C A

. C D

LIN

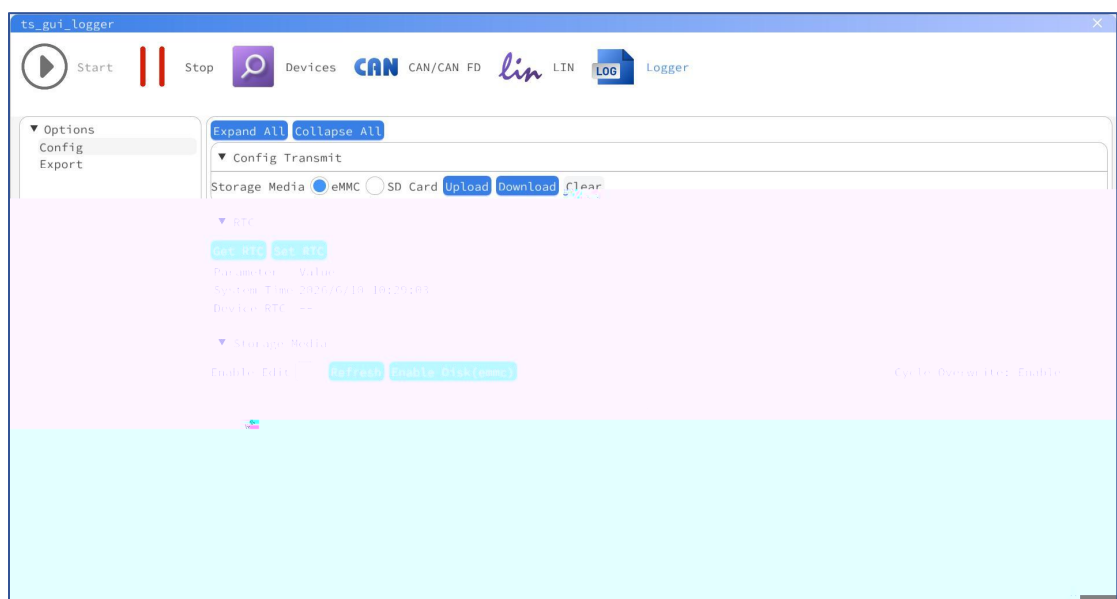


F 2-28 LIN C C

1. C L C .C

:

- C :
- C: -
- M :



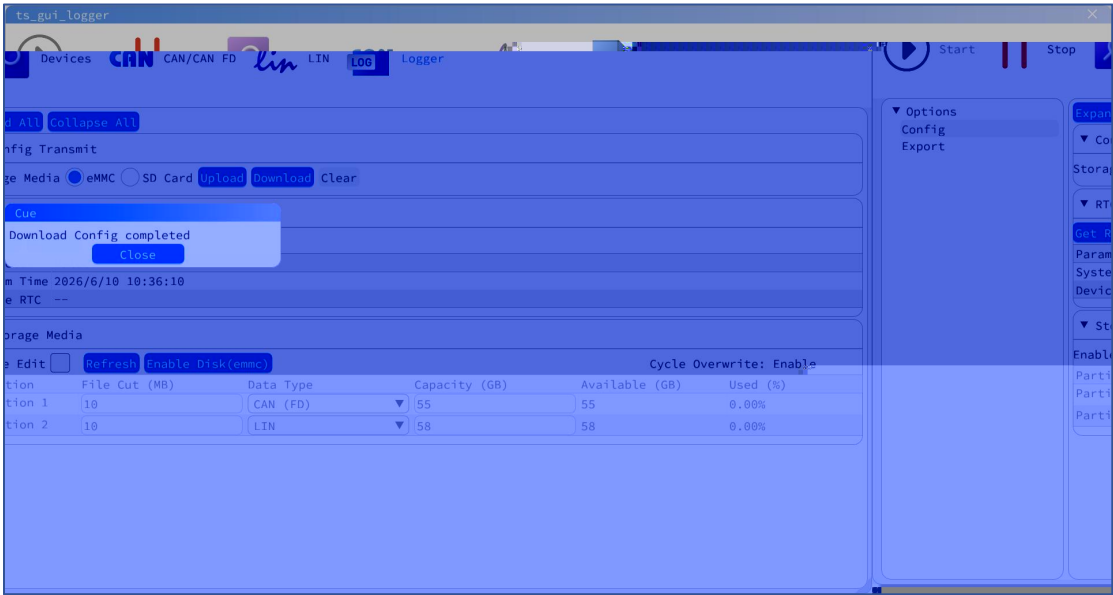
F 2-29 L C

2. C

D :C D CAN/LIN  
L .

A , CAN/LIN  
L .

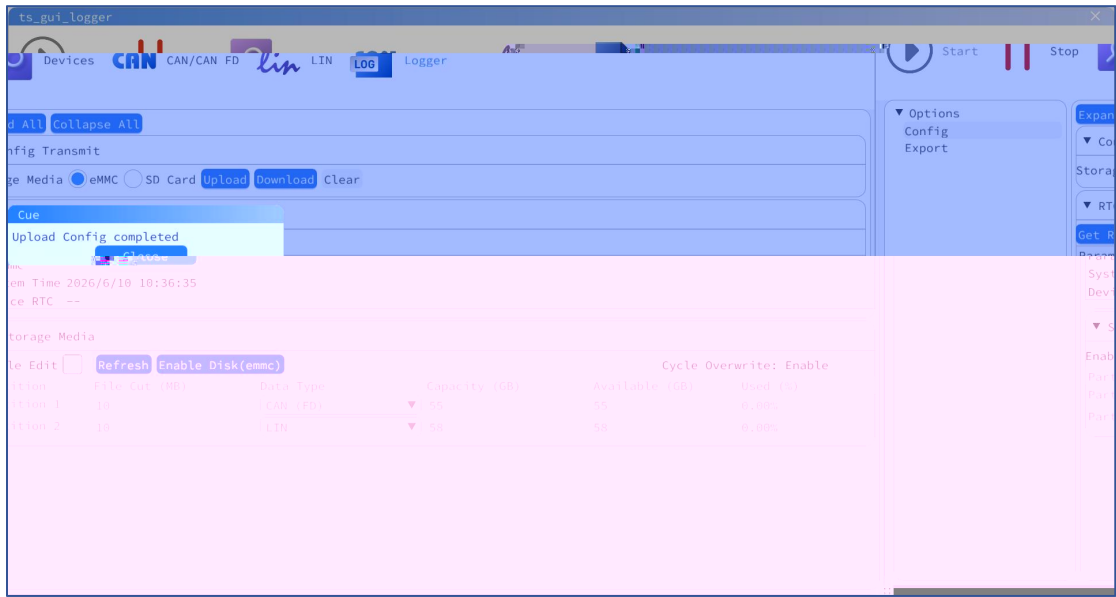
,  
E D ( MMC) .



F 2-30 C D

:C CAN/LIN  
.( L  
.)

C CAN/LIN

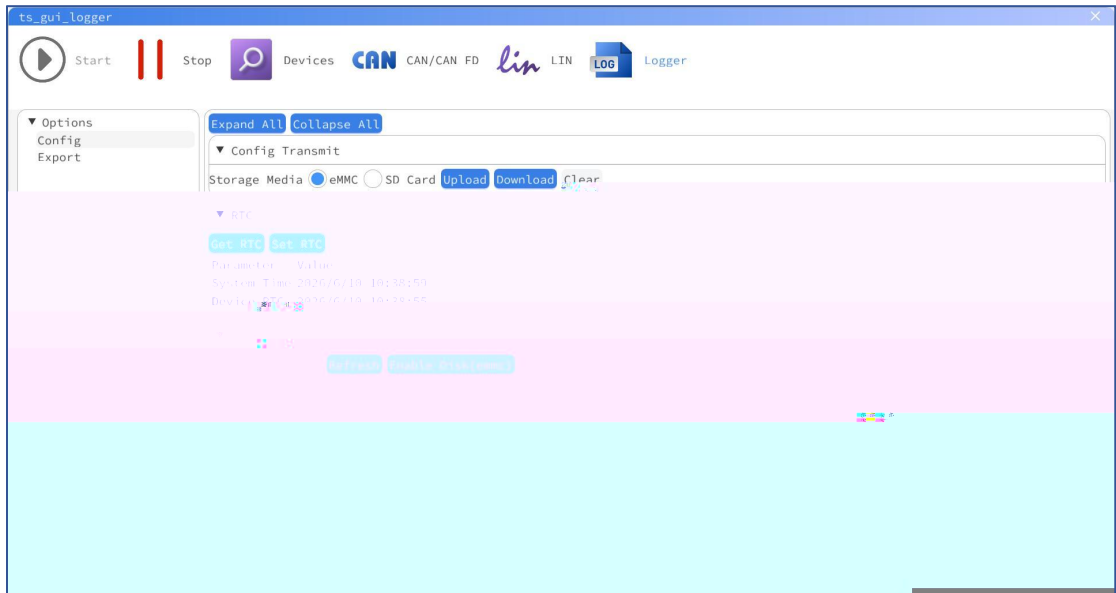


F 2-31 C

C :C C

3. C( - C )

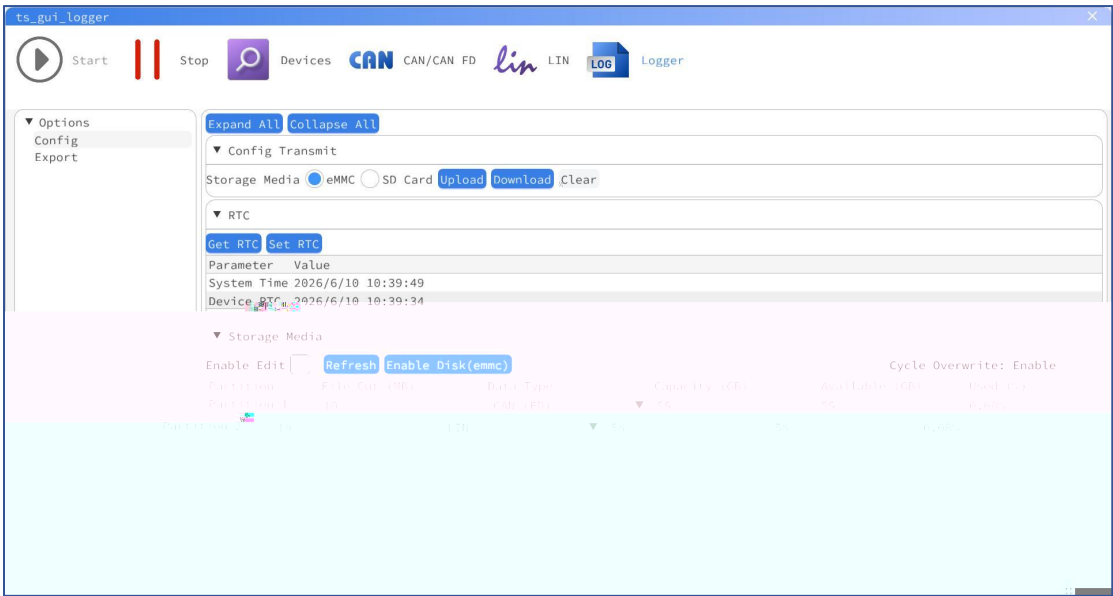
G C:C G C C



F 2-32 C

C: C C C

4. M
- E D ( MMC): MMC
- . (I , MMC
- .)
- :
- :
- ( 1 8)
  - F ( : MB, : 10 1024 MB. , .)
  - ( : , CAN(FD), LIN )
  - 
  - 
  -



F 2-33 M

E E :A E E ,

, , , .A

, A .

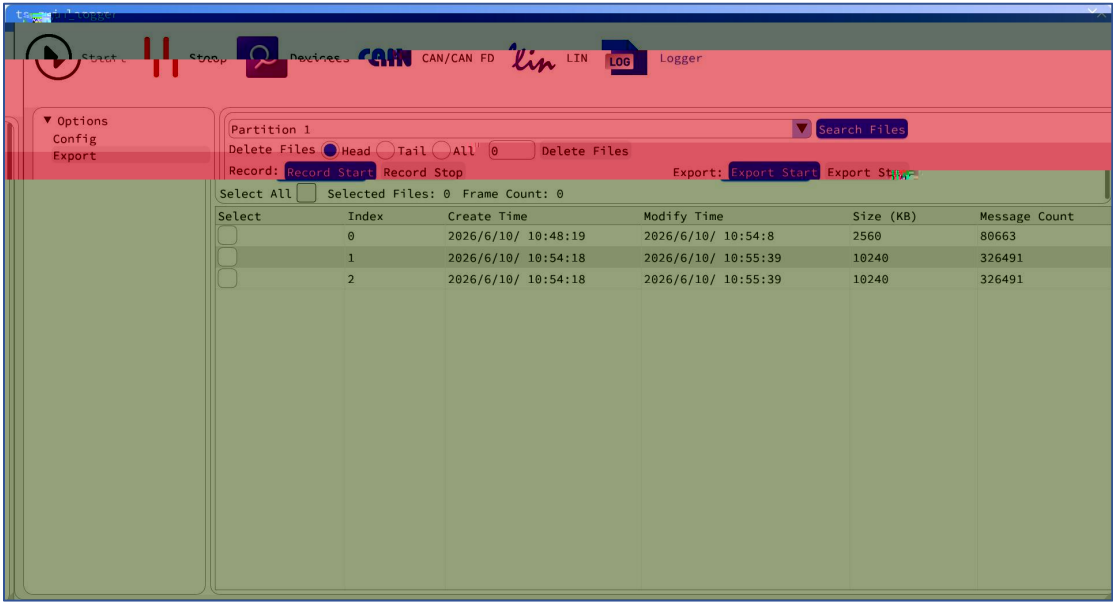
.

N ::I

128 MB 128 N.O D ,

.A ,

MMC



F 2-35 E I

6. : -  
.C , 1 .C  
-  
: D ,  
D E , D A .



|     |          |
|-----|----------|
|     |          |
| D   | C N (N ) |
| D E | C N (N ) |
| D A | C        |

7. E C

/ :C  
:

■ ;

■ C

E / :I , ,

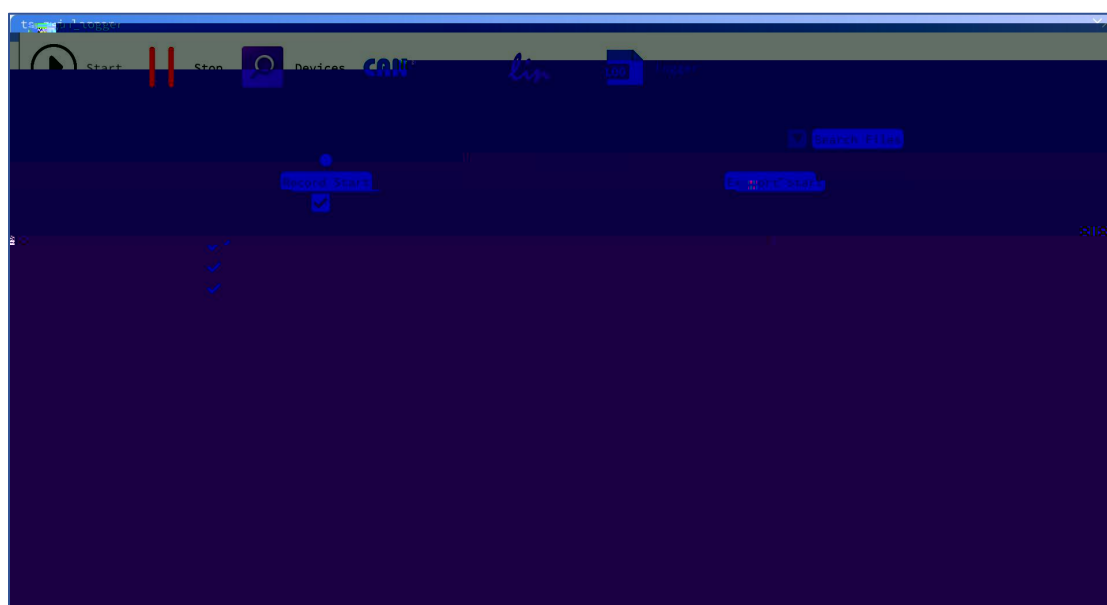
E , ,

.

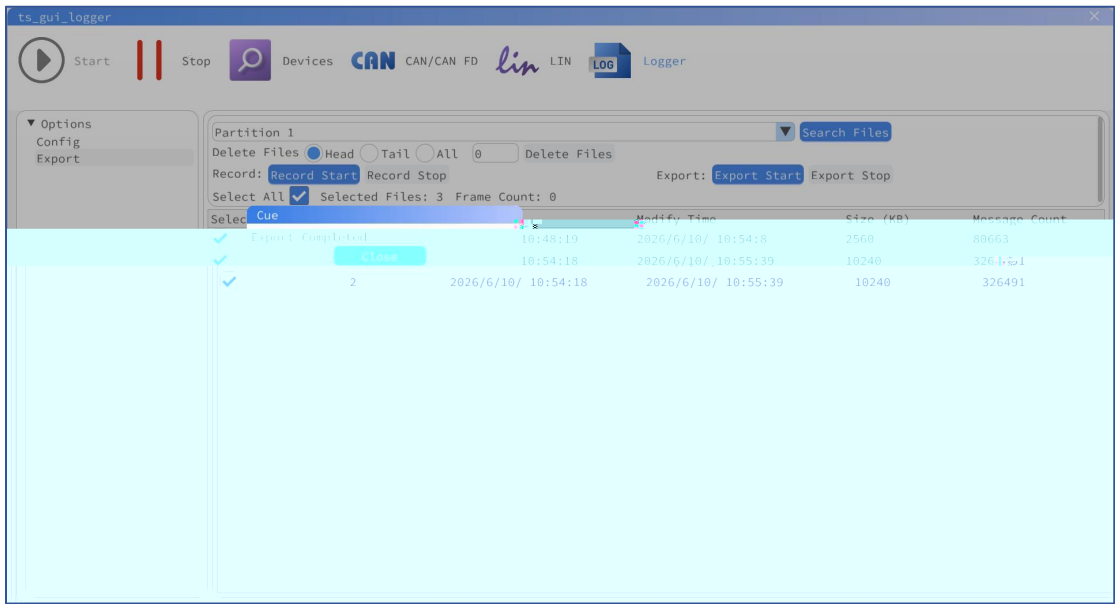
N :B , .

.I ,

.



F 2-36 / F



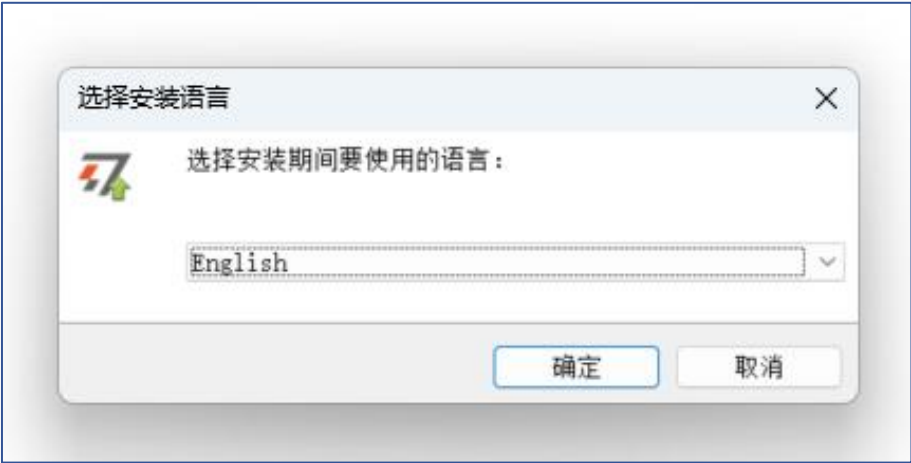
F 2-37 F E

L

ts\_gui\_lite.exe, :

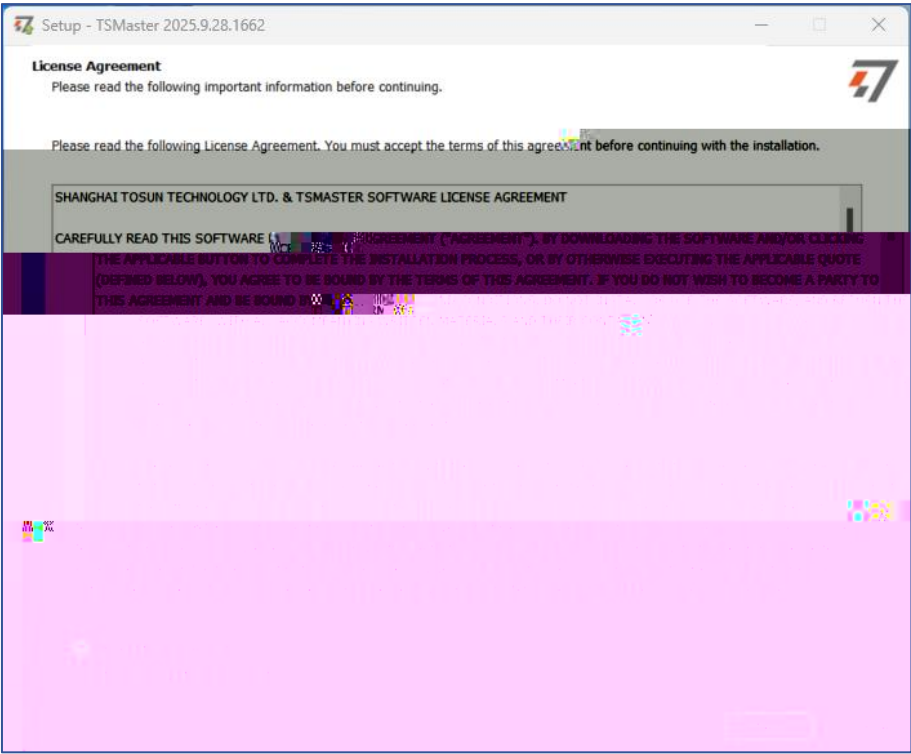






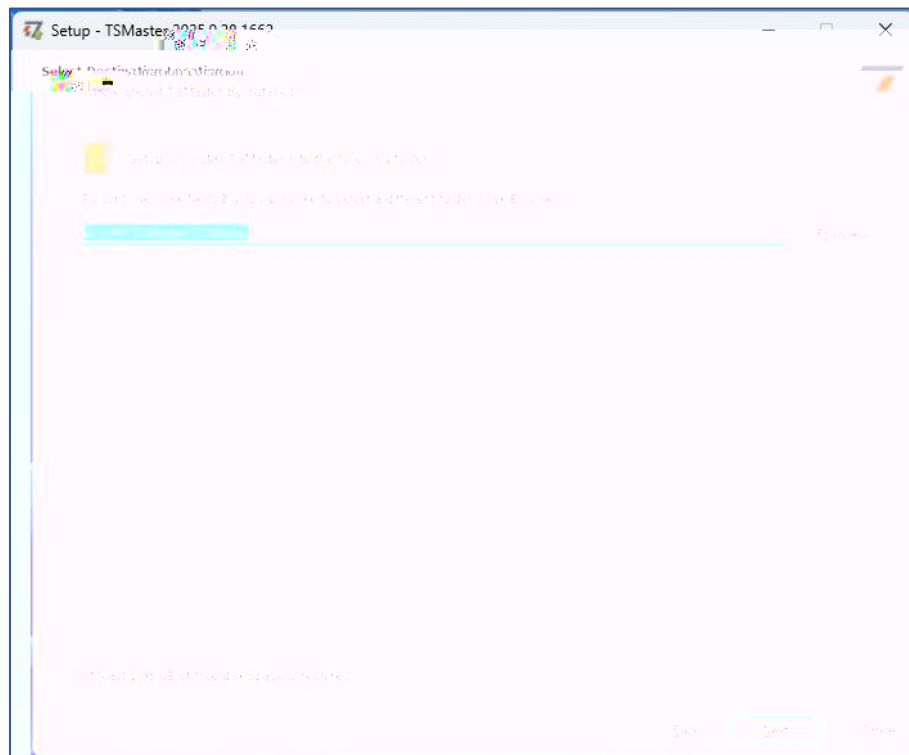
F 3-2 M I

2. A N .



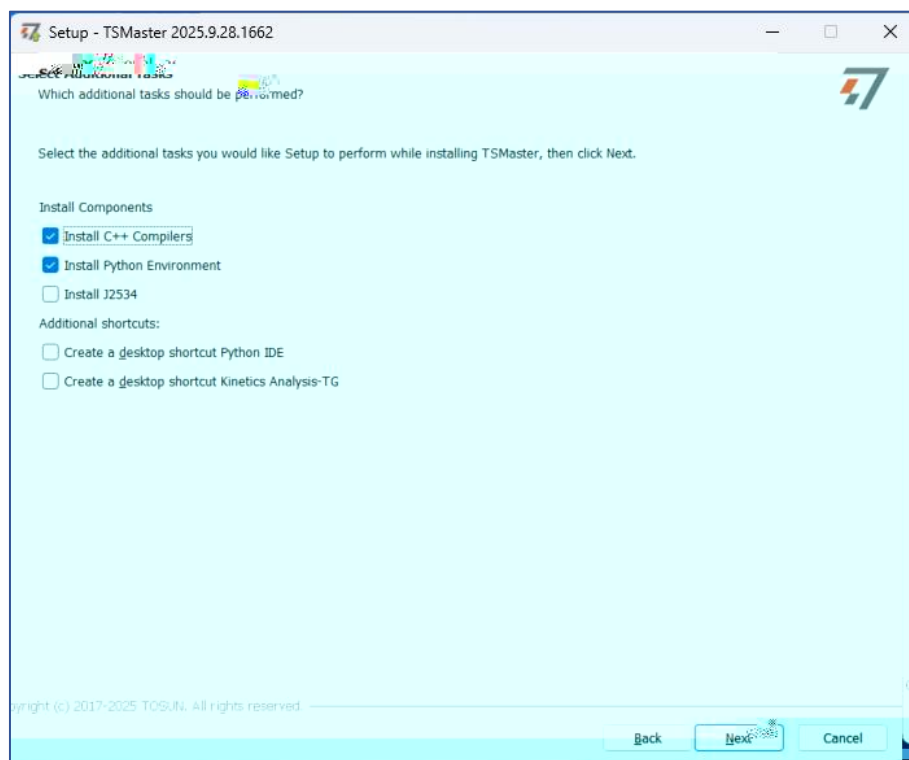
F 3-3 M I

3. C N “.



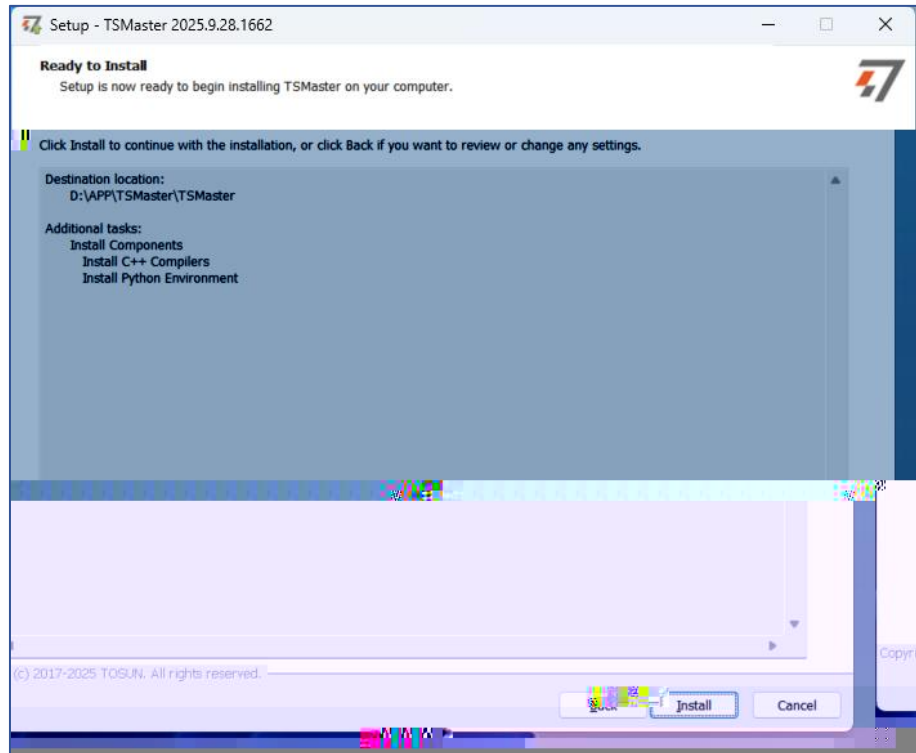
F 3-4 M I

4. N .

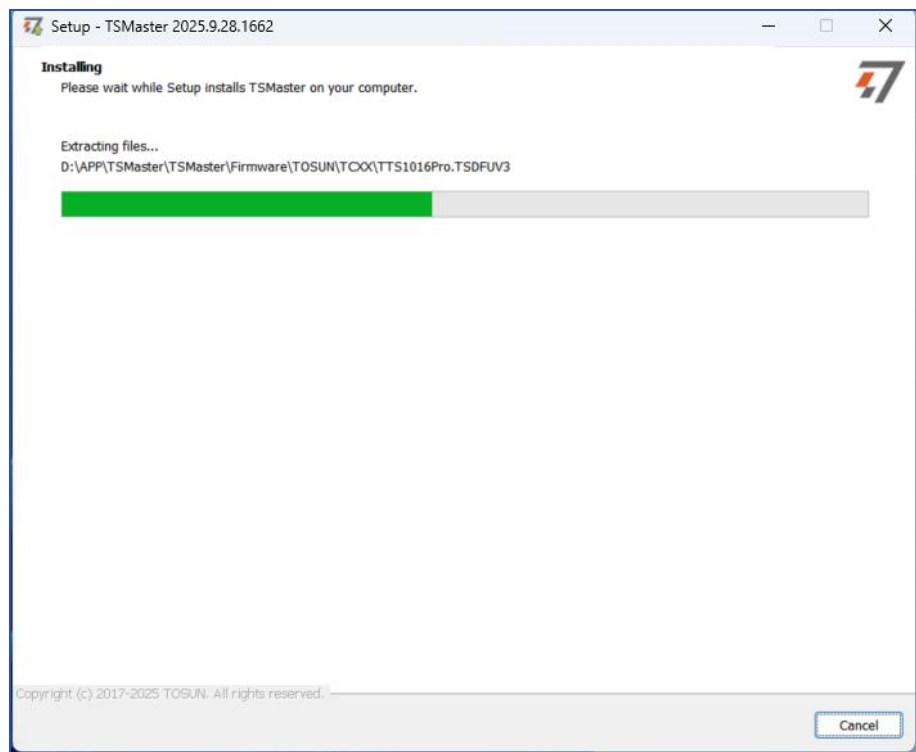


F 3-5 M I

5. C I .



F 3-6 M I



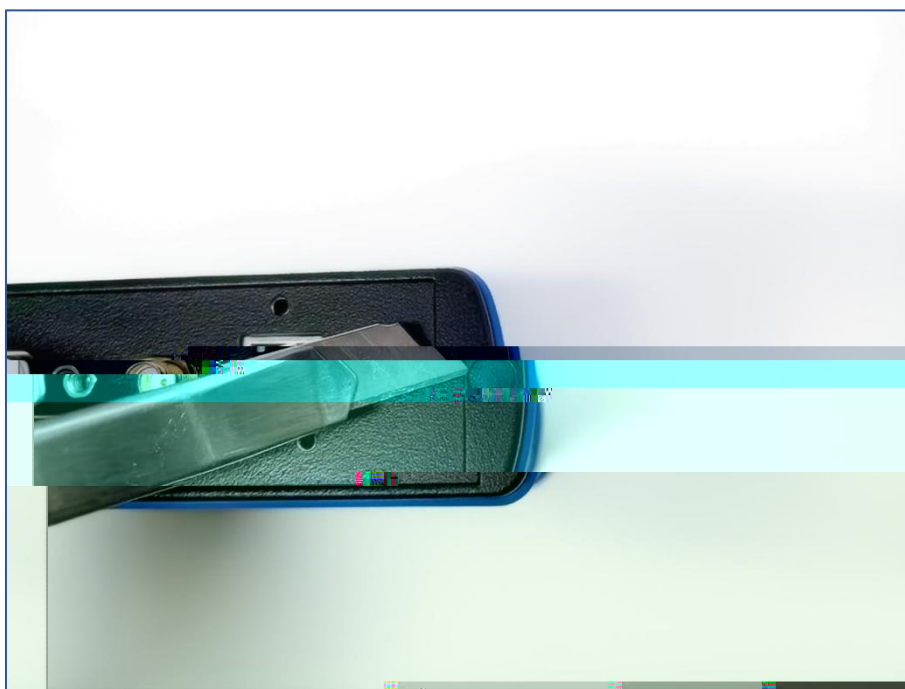
F 3-7 M I

6. C F .



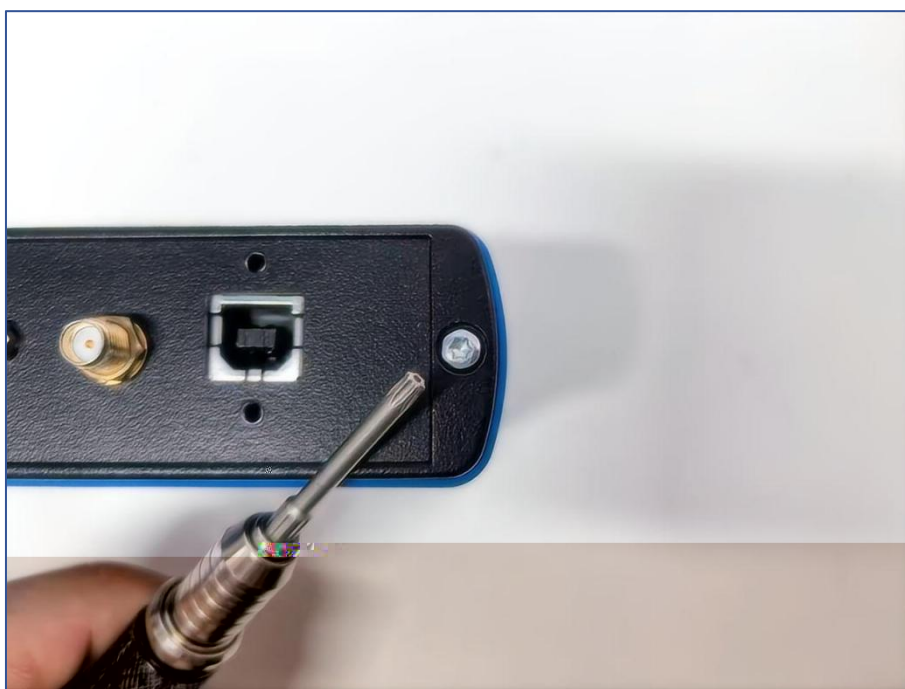
F 3-8 M I

● , .



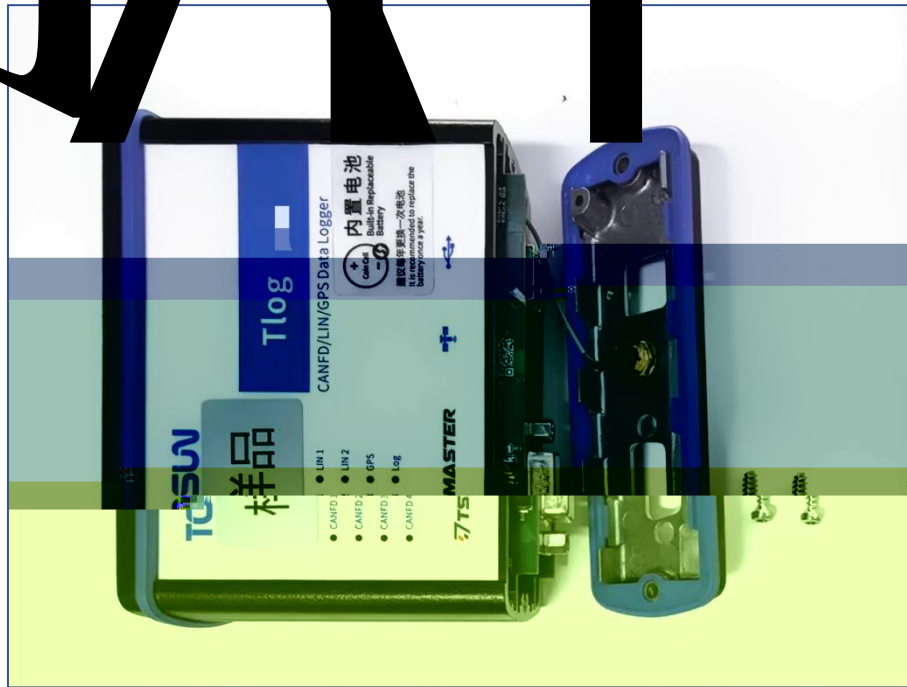
F 3-9 1

- 10 , .



F 3-10 2

- , .



F 3-11 3

- A



F 3-13 5

1002 ,  
.H ,  
 ,  
 .  
I 6 12 .I  
 ,  
 .  
.I , O N  
L .



|        | C           | +12 DC    | ; |
|--------|-------------|-----------|---|
| A<br>C | C<br>(<br>) | -40 +80   |   |
|        | C<br>(<br>) | 10% 90% H |   |



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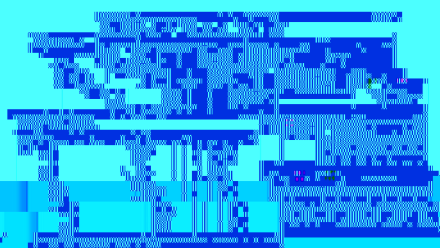
## Software

## Hardware

Computer programming languages (C, C++, Java, etc.)

AI applications writing

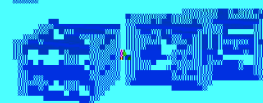
Linux installing/creating/developing



## PERIPHERALS

Microcontroller module development boards (Arduino)

High-speed digital I/O development boards



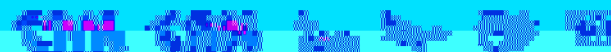
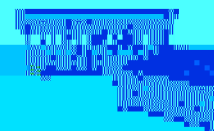
771 peripherals

- Arduino Uno, Arduino Mega, Arduino Nano

- Raspberry Pi 4, Raspberry Pi 3

- BeagleBone Black, BeagleBone Green

- Intel Edison, Intel Curie, Intel Edison



## Software

• Microcontroller

• Embedded systems

• Computer architecture

• Embedded systems development

• Embedded systems hardware

• Embedded systems software

• High-speed digital I/O

• High-speed digital I/O

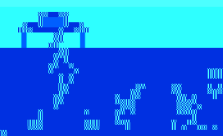
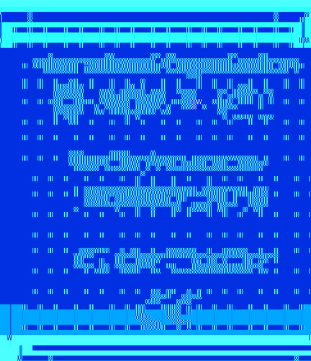
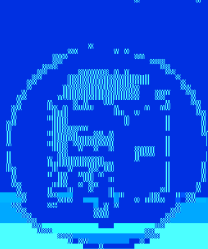
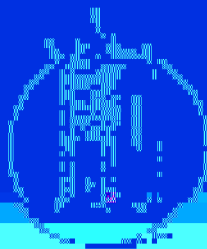
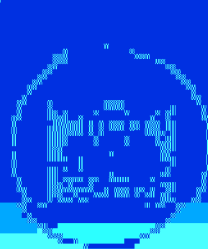
• High-speed digital I/O

• I/O

## About TOSUN

www.tosun.com.tr is a company that provides software and hardware solutions for its customers.

We provide software and hardware solutions for our customers. We provide software and hardware solutions for our customers. We provide software and hardware solutions for our customers.



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