

# **UART-02**

User's Manual(DOS)

**Bear Technologies**  
**[www.beartech.com.tw](http://www.beartech.com.tw)**

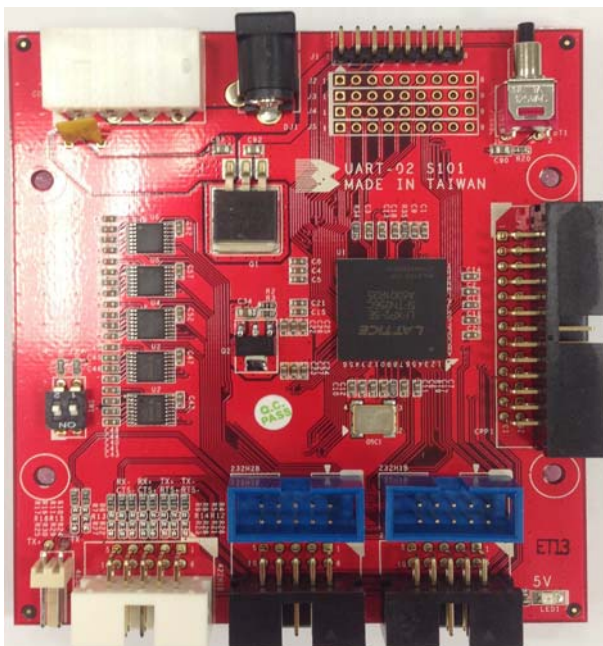
## Section 1 : Introduction

### 1. Product Feature

- A) Test RS232 Mode Support up to 921600 BPS
- B) Test RS422 Mode Support up to 921600 BPS
- C) Test RS485 Mode Support up to 921600 BPS
- D) Test Parallel Port

### 2. Accessories

- A) UART Test Card \*1
- B) PARALLEL PORT CABLE \*1
- C) RS232 CABLE \* 2
- D) RS422 CABLE \* 1
- E) RS485 CABLE \* 1



### 3. JUMPER SETTING & LED

- 1> LED1 : 5V LED
- 2> BT1 : Reset Button
- 3> SW1 : RS485 Baud Rate Switch  
SW[1:0]
  - 1 1 : 115200bps (Default)
  - 1 0 : 230400bps
  - 0 1 : 460800bps
  - 0 0 : 921600bps

## Section 2 : Common Program Syntax

### 1-1> Filename: UART.COM

#### 1-2>Syntax:

```
UART [ /nnnn ] [ Cn ] [ @nnnn ] [ Inn ] [ \K ] [ ? ]
/1234      : Lap_Cnt = 1234      /L      : Lap_Cnt = Loop
C1 : COM1  C2 : COM2  C3 : COM3  C4 : COM4
@D100     : D100H (COM Port I/O Base)
RS422     : RS422 Mode Selected
RS485     : RS485 Mode Selected
I03 : IRQ03   I04 : IRQ04   I05 : IRQ05   I09 : IRQ09
I10 : IRQ10   I11 : IRQ11   I12 : IRQ12
\I        : IRQ Test Skip
\RTS      : RTS Test Skip      \DTR      : DTR Test Skip
\CTS      : CTS Test Skip      \DSR      : DSR Test Skip
+RTS      : RTS Test Enable ( For RS422 Only )
+CTS      : CTS Test Enable ( For RS422 Only )
\TX-      : TX- Test Skip ( For RS422/RS485 Only )
H         : 921600 BPS Test
H0        : 115200 BPS Test
H1        : 230400 BPS Test
H2        : 460800 BPS Test
```

#### 1-3> Example:

```
UART                               :RS232 COM1 IRQ4
UART C2                             :RS232 COM2 IRQ3
UART C3 @d100 I11                   :RS232 COM3 IRQ11 Base = D100H
UART RS422                           :RS422 COM2 IRQ3 RTS+/RTS- Skip
UART RS422 +RTS +CTS                 :RS422 COM2 IRQ3 RTS+/RTS- Enable
UART RS422 C1                        :RS422 COM1 IRQ4 RTS+/RTS- Skip
UART RS485                           :RS485 COM2
UART RS485 C1                        :RS485 COM1
UART RS485 C1 @E000                 :RS485 COM1 Base = E000H
```

### 2-1> Filename: MT.EXE

#### 2-2> Example :

```
MT P1N                             :Parallel Port Test
```

## Section 3 : Testing Principle

### A. Fuction:

COM Port , Parallel Port Read/Write Test

### B. Compatibility:

Parallel Port & COM Port , IPC , Server , M.B.

### C. Efficiency and Completeness

Only requires one test program UART.COM ( UART ? ; Help Message ) ,  
to complete the Com Port Test

### D. Testing Procedure:

#### RS232 Mode :

1. Connect COM Port To "232H1A" or "232H2A" (A\_TYPE)  
or Connect COM Port To "232H1B" or "232H2B" (B\_TYPE)
2. Boot the screen to DOS platform
3. Execute **UART.COM**

A\_TYPE : (232H1A or 232H2A)

B\_TYPE : (232H1B or 232H2B)

1	⊙	⊙	6
2	⊙	⊙	7
3	⊙	⊙	8
4	⊙	⊙	9
5	⊙		

1	⊙	⊙	2
3	⊙	⊙	4
5	⊙	⊙	6
7	⊙	⊙	8
9	⊙		

( 1. DCD 2. RX 3. TX 4. DTR 5. GND 6. DSR 7. RTS 8. CTS 9. RI )

#### RS422 Mode :

1. Connect COM Port To "422H1B"
2. Boot the screen to DOS platform
3. Excute **UART.COM**

( 1. TX- 2. TX+ 3. RX+ 4. RX- 6. RTS- 7. RTS+ 8. CTS+ 9. CTS- )

#### RS485 Mode :

1. COM Port Connect To "485H1C"
2. Boot the screen to DOS platform
3. Excute **UART.COM**

( 1. TX- 2. TX+ )

## E. Actual test:

( 1 ) RS232 MODE Test Program (921600 bps) :

```
RS232/RS422/RS485 ( For UART ) Ver 2.6 Bear Tech. 05/11/2017 ? .. HELP
Code 08 04 --> 08 04
Code 06 06 --> 06 06
Code 02 01 --> 02 01
Code 00 01 --> 00 01
Code 00 32 --> 00 32
Code 55 --> 55
Code AA --> AA
Code 03 AA --> 03 AA
Code 88 --> 88
30 31 32 33 34 35 36 37
38 39 3A 3B 3C 3D 3E 3F
55 AA 00 FF 5A A5 0F F0
01 02 04 08 10 20 40 80
02 22 42 03 63 43 3B 2B
3F 2F 23 1B 0B 1F 0F 03
C3 D3 E3 F3 C3 E3 D3 F3
00 20 10 30 80 A0 90 B0
40 60 50 70 C0 E0 D0 F0
00 20 10 30 80 A0 90 B0
40 60 50 70 C0 E0 D0 F0
?? ?? ?? ?? ?? ?? ?? ??

RS232 COM1 :E020h Loop: 00000 00001

120> TX (3) & RX (2) : Pass
      115200 none stop1 8bits
121> RTS (7) : Pass
122> DTR (4) : Pass
123> DCD (1) & DDCD Bit : Pass
124> CTS (8) & DCTS Bit : Pass
125> DSR (6) & DDSR Bit : Pass
126> RI (9) & TERI Bit : Pass
127> IRQ04 : Skip

RS232 Result ("Q" : Quit)

PASS

C:\NALANTS>
```

( 2 ) RS422 MODE Test Program (921600 bps) :

```
RS232/RS422/RS485 ( For UART ) Ver 2.5 Bear Tech. 03/22/2017 ? .. HELP
Code 08 04 --> 08 04
Code 06 06 --> 06 06
Code 02 01 --> 02 01
Code 00 01 --> 00 01
Code 00 32 --> 00 32
Code 55 --> 55
Code AA --> AA
Code 03 AA --> 03 AA
Code 88 --> 88
30 31 32 33 34 35 36 37
38 39 3A 3B 3C 3D 3E 3F
55 AA 00 FF 5A A5 0F F0
01 02 04 08 10 20 40 80
02 22 42 03 63 43 3B 2B
3F 2F 23 1B 0B 1F 0F 03
?? ?? ?? ?? ?? ?? ?? ??
?? ?? ?? ?? ?? ?? ?? ??
?? ?? ?? ?? ?? ?? ?? ??
?? ?? ?? ?? ?? ?? ?? ??
?? ?? ?? ?? ?? ?? ?? ??
?? ?? ?? ?? ?? ?? ?? ??

RS422 COM1 :E020h Loop: 00000 00001

130> TX+(2) RX+(3) RX-(4) : Pass
      115200 none stop1 8bits
131> TX- (1) : Skip
132> RTS+(7) : Skip
133> RTS-(6) : Skip
134> CTS+(8) CTS-(9) : Skip

137> IRQ04 : Skip

RS422 Result ("Q" : Quit)

PASS

C:\NALANTS>
```

(3) RS485 MODE Test Porgram (115200 bps):

```
RS232/RS422/RS485 ( For UART ) Ver 2.5 Bear Tech. 03/22/2017 ? .. HELP
Code 08 04 --> 08 04
Code 06 06 --> 06 06
Code 02 01 --> 02 01
Code 00 01 --> 00 01
Code CC --> CC

40 41 42 43 44 45 46 47
48 49 4A 4B 4C 4D 4E 4F
50 51 52 53 54 55 56 57
58 59 5A 5B 5C 5D 5E 5F
60 61 62 63 64 65 66 67
68 69 6A 6B 6C 6D 6E 6F
70 71 72 73 74 75 76 77
78 79 7A 7B 7C 7D 7E 7F
80 81 82 83 84 85 86 87
88 89 8A 8B 8C 8D 8E 8F
90 91 92 93 94 95 96 97
98 99 9A 9B 9C 9D 9E 9F

RS485 COM1 :E020h Loop: 00000 00001
140> TX+ (2) : Pass
141> TX- (1) : Skip

115200 none stop1 8bits

RS485 Result ("Q" : Quit)

PASS

C:\ALANTS>
```

(4) RS485 MODE Test Porgram (230400 bps):

```
RS232/RS422/RS485 ( For UART ) Ver 2.5 Bear Tech. 03/22/2017 ? .. HELP
Code 08 04 --> 08 04
Code 06 06 --> 06 06
Code 02 01 --> 02 01
Code 00 01 --> 00 01
Code CC --> CC

40 41 42 43 44 45 46 47
48 49 4A 4B 4C 4D 4E 4F
50 51 52 53 54 55 56 57
58 59 5A 5B 5C 5D 5E 5F
60 61 62 63 64 65 66 67
68 69 6A 6B 6C 6D 6E 6F
70 71 72 73 74 75 76 77
78 79 7A 7B 7C 7D 7E 7F
80 81 82 83 84 85 86 87
88 89 8A 8B 8C 8D 8E 8F
90 91 92 93 94 95 96 97
98 99 9A 9B 9C 9D 9E 9F

RS485 COM1 :E020h Loop: 00000 00001
140> TX+ (2) : Pass
141> TX- (1) : Skip

230400 none stop1 8bits

RS485 Result ("Q" : Quit)

PASS

C:\ALANTS>
```

(5) RS485 MODE Test Porgram (460800 bps):

```
RS232/RS422/RS485 ( For UART ) Ver 2.5 Bear Tech. 03/22/2017 ? .. HELP
Code 08 04 --> 08 04
Code 06 06 --> 06 06
Code 02 01 --> 02 01
Code 00 01 --> 00 01
Code CC --> CC

40 41 42 43 44 45 46 47
48 49 4A 4B 4C 4D 4E 4F
50 51 52 53 54 55 56 57
58 59 5A 5B 5C 5D 5E 5F
60 61 62 63 64 65 66 67
68 69 6A 6B 6C 6D 6E 6F
70 71 72 73 74 75 76 77
78 79 7A 7B 7C 7D 7E 7F
80 81 82 83 84 85 86 87
88 89 8A 8B 8C 8D 8E 8F
90 91 92 93 94 95 96 97
98 99 9A 9B 9C 9D 9E 9F

RS485 COM1 :E020h Loop: 00000 00001

140> TX+ (2) : Pass
141> TX- (1) : Skip

460800 none stop1 8bits

RS485 Result ("Q" : Quit)

PASS

C:\ALANTS>
```

(6) RS485 MODE Test Porgram (921600 bps):

```
RS232/RS422/RS485 ( For UART ) Ver 2.5 Bear Tech. 03/22/2017 ? .. HELP
Code 08 04 --> 08 04
Code 06 06 --> 06 06
Code 02 01 --> 02 01
Code 00 01 --> 00 01
Code CC --> CC

40 41 42 43 44 45 46 47
48 49 4A 4B 4C 4D 4E 4F
50 51 52 53 54 55 56 57
58 59 5A 5B 5C 5D 5E 5F
60 61 62 63 64 65 66 67
68 69 6A 6B 6C 6D 6E 6F
70 71 72 73 74 75 76 77
78 79 7A 7B 7C 7D 7E 7F
80 81 82 83 84 85 86 87
88 89 8A 8B 8C 8D 8E 8F
90 91 92 93 94 95 96 97
98 99 9A 9B 9C 9D 9E 9F

RS485 COM1 :E020h Loop: 00000 00001

140> TX+ (2) : Pass
141> TX- (1) : Skip

921600 none stop1 8bits

RS485 Result ("Q" : Quit)

PASS

C:\ALANTS>
```

(7) Parallel Port Test Program :

```
Multi I/O Test Program Ver 11.5 Bear technologies 01/26/2011 0001
50>FDD A : Skip      54>COM 1 : Skip      57>GAME PORT : Skip
   Write : ???      Port : ???
   Read  : ???      (4-6)(7-8): ???
   Verify: ???      (4-9)(7-1): ???
                    Poll : ???
                    IRQ4 : ???
51>FDD B : Skip      55>COM 2 : Skip
   Write : ???      Port : ???
   Read  : ???      (4-6)(7-8): ???
   Verify: ???      (4-9)(7-1): ???
                    Poll : ???
                    IRQ3 : ???
52>IDE 0 : Skip
   8 Bit : ???
   16 Bit: ???
   IRQ 14: ???
   32 Bit: ???
53>IDE 1 : Skip
   8 Bit : ???
   16 Bit: ???
   IRQ 15: ???
   32 Bit: ???
56>PRN 1 : Pass
   Port : E010h
   Internal: Pass
   PDC[7:4]: Pass
   PDC[3:0]: Pass
   Ext Loop: Pass
   IRQ7 : Skip
58>PS/2 Mouse : Skip
   IRQ12 : ???
   Initial : ???
Results ("Q" : Quit)
PASS
C:\ALANTS>
```

## Section 4 : Test Results

### 4.1 The chips that have been tested

Super I/O Chip : sunix sun2212



**Program updates and product related information can be viewed and download at : <http://www.beartech.com.tw>**

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