

SIRIUS2

PROTOCOL for REMOTE COMMUNICATION

Revision History

2023.10.18 Initial version (v.1.5.830)

2023.10.19 added) layer, select, deselect (v.1.6.840)

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1. Communication Methods: TCP/IP Server or SERIAL(RS-232)

- For TCP/IP
 - Server Port: 5001
- For Serial (RS-232)
 - COM Port: 1
 - Baud-rate: 57600 bps
 - Data bit: 8
 - Stop bit: 1
 - Parity: None
- Communication format are based on ASCII character
- Default separator: ','
- Default terminator: ';'
- Configurable setting at config.ini file

[REMOTE0]

; 1= ENABLE, 0= DISABLE

ENABLE=1

; TCP, SERIAL

PROTOCOL=TCP

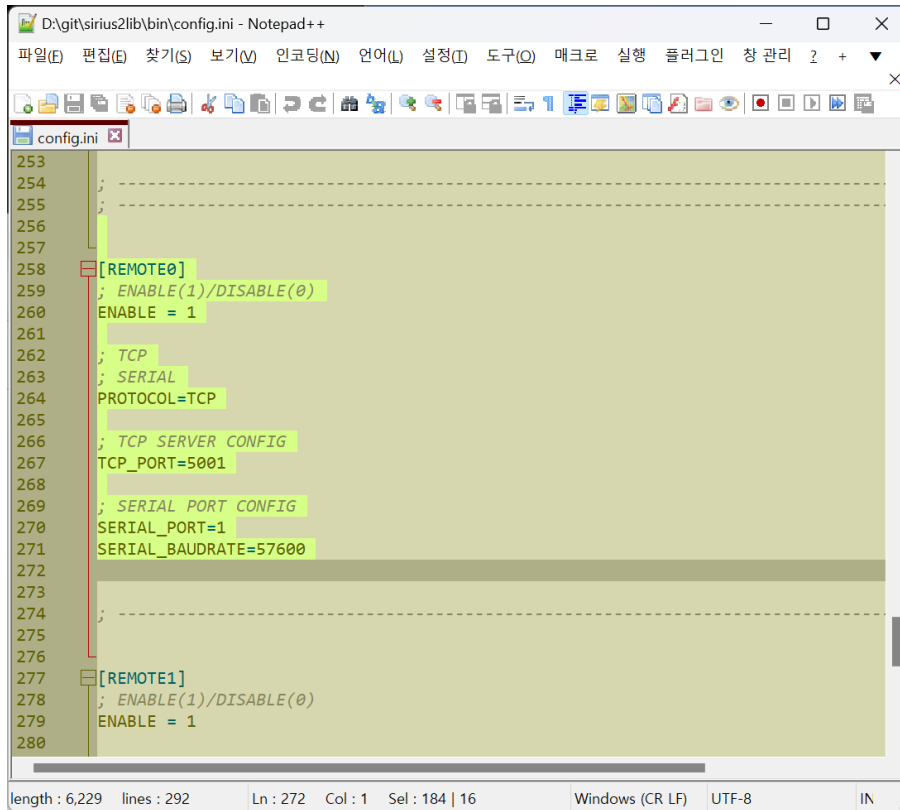
; TCP config

TCP_PORT=5001

; SERIAL config

SERIAL_PORT=2

SERIAL_BAUDRATE=57600



```
253
254 ; -----
255 ;
256
257 [REMOTE0]
258 ; ENABLE(1)/DISABLE(0)
259 ENABLE = 1
260
261 ; TCP
262 ; SERIAL
263 PROTOCOL=TCP
264
265 ; TCP SERVER CONFIG
266 TCP_PORT=5001
267
268 ; SERIAL PORT CONFIG
269 SERIAL_PORT=1
270 SERIAL_BAUDRATE=57600
271
272
273 ; -----
274 ;
275
276 [REMOTE1]
277 ; ENABLE(1)/DISABLE(0)
278 ENABLE = 1
279
280
```

length : 6,229 lines : 292 Ln : 272 Col : 1 Sel : 184 | 16 Windows (CR LF) UTF-8 IN

2. List of commands

- Recipe: Query and change recipe file
- Offset: Update list of offsets (dx, dy, dz, angle z, ...)
- Control: Control commands
- Status: Query status
- Entity: Query and update entity's property value
- Pen: Query and update pen's property value
- Layer: Query and update layer's property value
- Select or Deselect: Query and select/deselect entities
- FieldCorrection: Popup scanner field correction 2D winforms

3. Recipe

- Command: Recipe, Filename; (absolute path)
- Example: Recipe,C:\sirius2\bin\recipe\test.sirius2;
- Response: OK; or NG;

- Command: Recipe, Filename; (\recipe\ path)
- Example: Recipe,test.sirius2; (searching for \recipe)
- Response: OK; or NG;

- Query: Recipe;
- Response: OK;Recipe,C:\sirius2\bin\recipe\test.sirius2;

4. Offset

- Command: Offset,Count,x₁,y₁,z₁,angle₁, ... , x_n,y_n,z_n,angle_n;
- Example: Offset,1,-5,1,0,2;
- Example: Offset,2,-5,0,0,0, 5,0,0,0;
- Response: OK; or NG;
- (Ref1) Transformation orders are rotate z and translate dx,dy,dz

5. Control

- Command: Control,Start (|Stop|Reset);
- Example: Control,Start;
- Example: Control,Stop;
- Example: Control,Reset;
- Response: OK; or NG;

6. Status

- Query: Status;
- Response: Status,Error; (|Status,Busy;|Status,Ready;|Status,NotReady;)

7. Entity

- Query lists of entity properties
- Format: Entity, Name, Properties;
- Example: Entity,Rectangle1,Properties;
- Response:


```

      OK;
      Width,10;
      Height,5;
      IsClosed,True;
      IsHatchable,False;
      HatchMode,Line;
      HatchJoint,Square;
      IsHatchZigZag,False;
      HatchAngle,90;
      HatchAngle2,0;
      HatchInterval,0.2;
      HatchExclude,0.05;
      HatchShift,0;
      HatchRepeat,1;
      IsHatchIncludeOutline,True;
      IsHatchOutlineFirst,False;
      Id,1260;
      TypeName,EntityRectangle;
      Color,Color [White];
      Name,Rectangle;
      IsRenderable,True;
      IsMarkerable,True;
      IsHitTestable,True;
      IsSelected,True;
      ChildCount,0;
      Alignment,None;
      ModelAlign,(0, 0, 0);
      ModelTranslate,(10, -10, 0);
      ModelScale,1;
      ModelRotate,(0, 0, 0);
      Repeats,1;
      In,(5, -7.5, 0);
      Out,(5, -7.5, 0);
      BBox,10.000, 5.000, 0.000;
      ModelMatrix,(1, 0, 0, 0)
      (0, 1, 0, 0)
      (0, 0, 1, 0)
      (10, -10, 0, 1);
      
```
- Query property value of entity
- Format: Entity, Name, Property;
- Example: Entity,Rectangle1,Color;
- Response: OK;Entity,Rectangle1,Color,White;
- Example: Entity,Rectangle1,Width;
- Response: OK;Entity,Rectangle1,Width,10;
- Example: Entity,Rectangle1,ModelTranslate;
- Response: OK;Entity,Rectangle1,ModelTranslate,10,-10,0;

- Command to set property value of entity
- Format: Entity, Name, Property, Value;
- Example: Entity,Rectangle1,Color,Yellow;
- Response: OK; or NG;
- Example: Entity,Rectangle1,Width,11;
- Response: OK; or NG;
- Example: Entity,Rectangle1,ModelTranslate,0,0,0;
- Response: OK; or NG;

8. Pen

- Query lists of pen properties
- Format: Pen, Name, Properties;
- Example: Pen,White,Properties;
- Response:
 - OK;
 - Power,1;
 - PowerMax,10;
 - PowerPercentage,10;
 - Frequency,50000;
 - PulseWidth,2;
 - PulsePeriod,20;
 - PulsePitch,2;
 - PulseDutyCycle,10.000 %;
 - JumpSpeed,100;
 - MarkSpeed,100;
 - MinMarkSpeed,0;
 - ApproxBlendLimit,0;
 - Color,Color [White];
 - LaserFpk,0;
 - LaserQSwitchDelay,0;
 - LaserOnDelay,10;
 - LaserOffDelay,50;
 - ScannerJumpDelay,250;
 - ScannerMarkDelay,150;
 - ScannerPolygonDelay,0;
 - IsScannerVariablePolygonDelay,False;
 - ScannerVariablePolygonDelayEdgeLevel,0;
 - IsScannerVariableJumpDelay,False;
 - ScannerVariableJumpDelayMin,50;
 - ScannerVariableJumpLength,1;
 - IsSkyWritingEnabled,False;
 - SkyWritingMode,Mode3;
 - LaserOnShift,10;
 - TimeLag,150;
 - Prev,0;
 - Post,0;

```

AngularLimit,89;
IsWobbelEnabled,False;
WobbelPerpendicular,0;
WobbelParallel,0;
WobbelFrequency,0;
WobbelShape,Ellipse;
Id,1;
TypeName,EntityPen;
Name,White;
Description,Color [White];
ChildCount,0;

```

- Query property value of pen
- Format: Pen, Name, Property;
- Example: Pen,White,MarkSpeed;
- Response: OK;Pen,White,MarkSpeed,100;

- Query: Pen,White,Frequency;
- Response: OK;Pen,White,Frequency,50000;

- Command to set property value of pen
- Format: Pen, Name, Property, Value;
- Example: Pen,White,MarkSpeed,1000;
- Response: OK; or NG;

- Command: Pen,White,Frequency,100000;
- Response: OK; or NG;

9. Layer

- Query lists of layer properties
- Format: Layer, Name, Properties;
- Example: Layer,0,Properties;
- Response:


```

OK; MotionType,StageAndScanner;
BandWidth,2;
IsALC,False;
AlcSignal,Disabled;
AlcMode,Disabled;
AlcPercentage100,0;
AlcMinValue,0;
AlcMaxValue,0;
AlcByPositionTable,System.Collections.Generic.KeyValuePair`2[System.Double,System.Double][];
Id,11;
TypeName,EntityLayer;
Name,0;
IsRenderable,True;
IsMarkerable,True;
IsSelected,True;
ChildCount,0;

```

```
Repeats,1;  
In,(0, 0, 0);  
Out,(0, 0, 0);
```

- Query property value of layer
- Format: Layer, 0, Property;
- Example: Layer,0,Name;
- Response: OK;Layer,0,Name,0;

10. Select or Deselect

- Query lists of selected entities
- Example: Select;
- Response:OK;Select,1,Arc1; (if 1 entity has select)
- Response:OK;Select,0; (if nothing has selected)
-
- Format: Select,Count,Name1,Name2,...;
- Example: Select,1,Arc1;
- Response: OK; or NG;
- Example: Select,2,Arc1,Arc2;
- Response: OK; or NG;

11. Field Correction 2D

- Command: FieldCorrection, Rows, Cols, Interval, ErrX1,ErrY1, ErrX2,ErrY2, ..., , ErrXn,ErrYn;
- Example: FieldCorrection,3,3,10,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0;
- Response: OK; or NG;
- (Ref1) Row and Col are odd numbers only (3,5,7,9, ...)
- (Ref2) ErrX, ErrY values are order from left top to right bottom

12. Example

- Command: Recipe,test.sirius2;
- Response: OK;
- Command: Entity,QRCode1,SourceText,HELLO WORLD;
- Response: OK;
- Query: Status;
- Response: Status,Ready;
- Command: Control,Start;
- Response:OK;
- Query: Status;
- Response: Status,Busy;
- ...
- Response: Status,End; (by automatically)
- Query: Status;
- Response: Status,Ready;
- Command: Offset,2, -5,0,0,0, 5,0,0,0;
- Response: OK;
- Command: Control,Start;
- Response: OK;
- Response: Status,End; (by automatically)