Siemens S7-1200/S7-1500 (S7CommPlus, Symbolic Addressing) (Ethernet)

Supported Series: Siemens S7-1200 Firmware V4.6.1 or previous versions,
S7-1500 Firmware V1.8.0 ~ V3.1.0, ET2000SP Series
PLC simulation SIMATIC PLCSIM Advanced V3.0 and V4.0
Website: http://www.siemens.com/entry/cc/en/

HMI Setting:

Parameters	Recommended	Options	Notes
PLC type	Siemens S7-1200/S7-1500 (S7CommPlus, Symbolic Addressing) (Ethernet)		
PLC I/F	Ethernet		
Port no.	102		
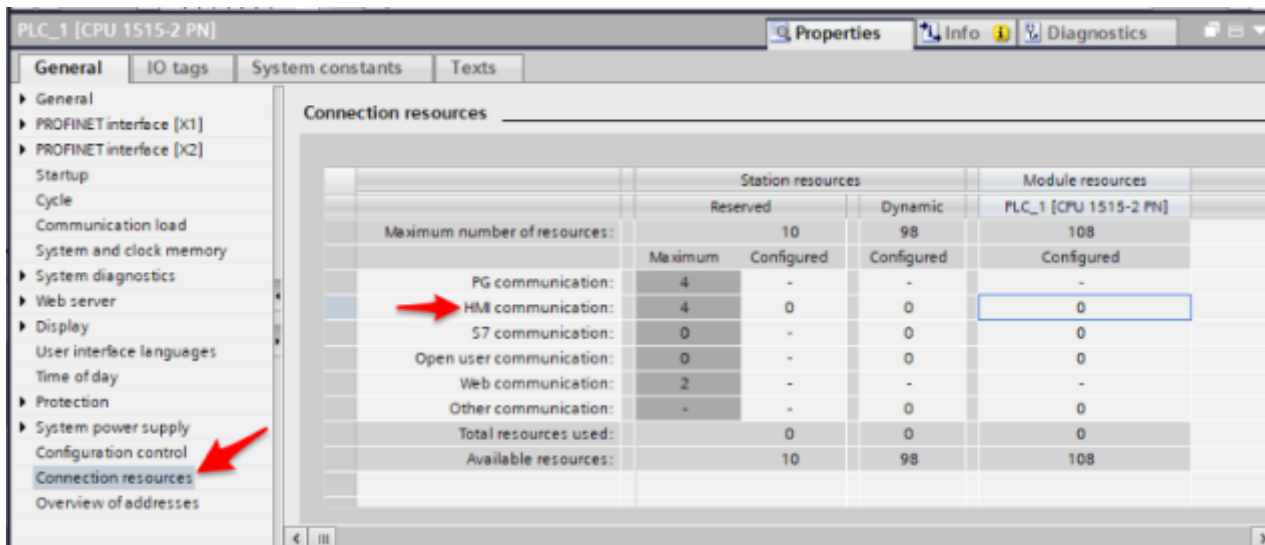
On-line simulator	Yes	Multi-HMI connect	TIA Settings *Note

Limitations:

Not supported on iP/iE Series HMI models.

*Note:

According to Connection resource / HMI Communication settings

PLC Settings:

- **Support PLC firmware version V2.80 and previous versions**

To support CPU 1510SP F-1 PN (ET200S), the access level must be set to full access incl.

PLCs (S71200/FW4.2/ & S7-1500/FW1.7/) firmware version and above support HMI access using password function

Note: If the user sets the HMI access level, the password of full access or read access must be used to communicate.

- **Legacy and secure PG/PC communication permitted**

[Only allow secure PG/PC and HMI communication] This setting item is not supported, please do not check it.

Legacy and secure PG/PC communication permitted:

- Communication security to PG/PC and HMI according to the options of both communication partners

- Communication to TIA Portal < V17 and HMI systems < V17 is possible. Higher TIA Portal versions require a separate activation of the Legacy communication.

- Communication performance might be higher when only legacy PG/PC communication is used
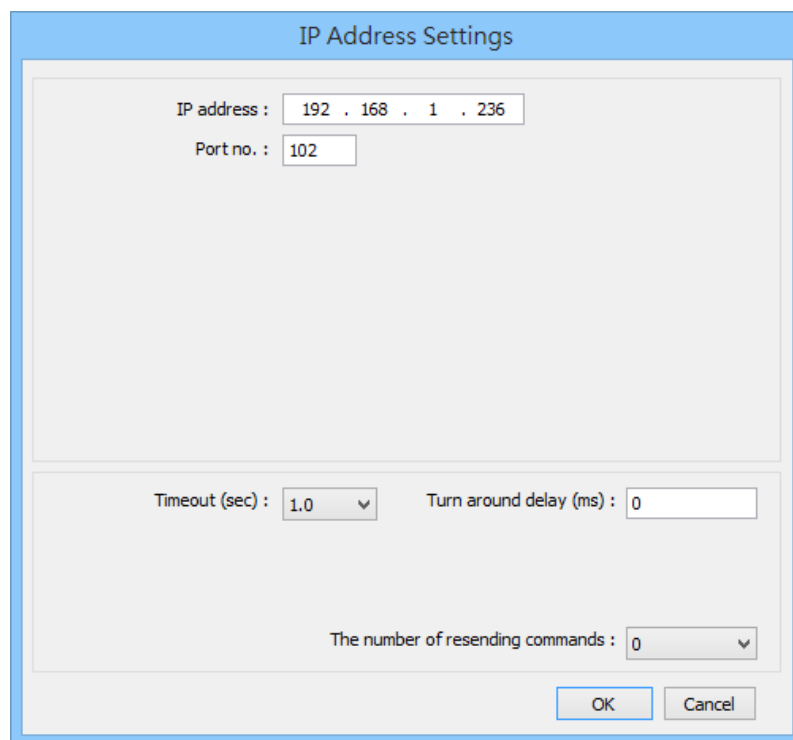
    ☐ Only allow secure PG/PC and HMI communication

Get Tag Info:

1. In S7-1500 program software create PLC program and tag and then download to PLC.

2. Select Go offline, EasyBuilder will connect to PLC and get tag data. In PLC type select "**Siemens S7-1200/S7-1500 (S7CommPlus, Symbolic Addressing) (Ethernet)**".

Device Settings

Name : Siemens S7-1200/S7-1500

○ HMI   ⊙ Device

Location : Local ∨   Settings...

* Select Local for a device connected to this HMI, or Remote for a device connected through another HMI.

Device type : Siemens S7-1200/S7-1500 (Symbolic Addressing) (Ethernet) ▸

Device ID : 535, V.1.30, S71500_SYMBOLICLINK.e30

I/F : Ethernet ∨   Open Device Connection Guide...

* Support off-line simulation on HMI (use LB-12358).

IP : 192.168.1.236, Port=102   Settings...
☐ Use UDP (User Datagram Protocol)

OK   Cancel

3. Click "**Settings…**", input PLC IP address.
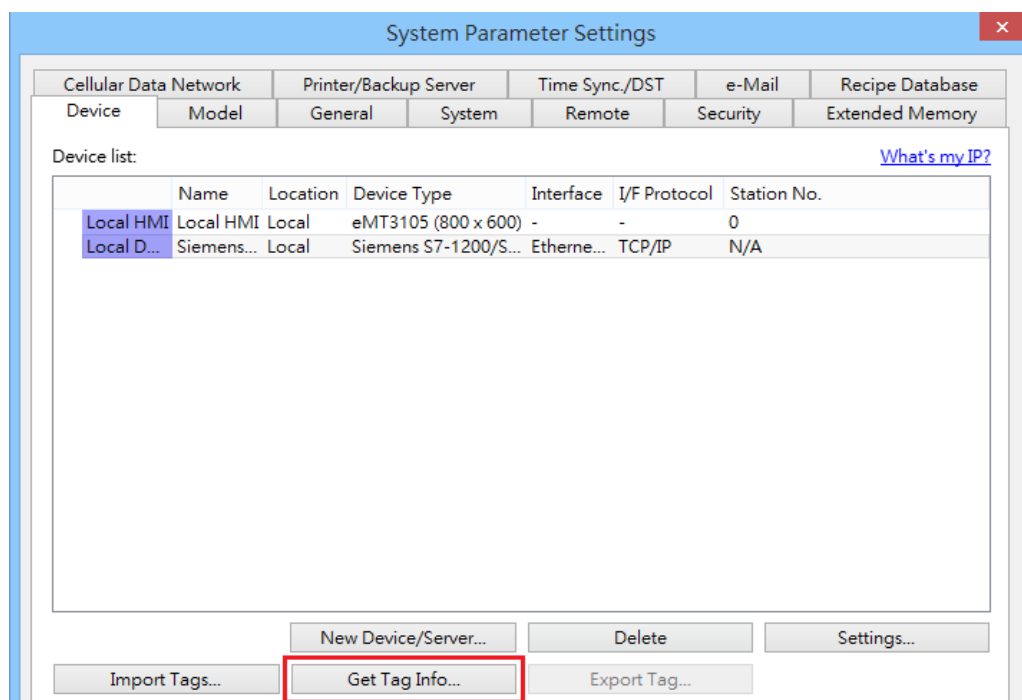
4. Check the PLC that is not connected to any PC. Click "**Get Tag Info…**".
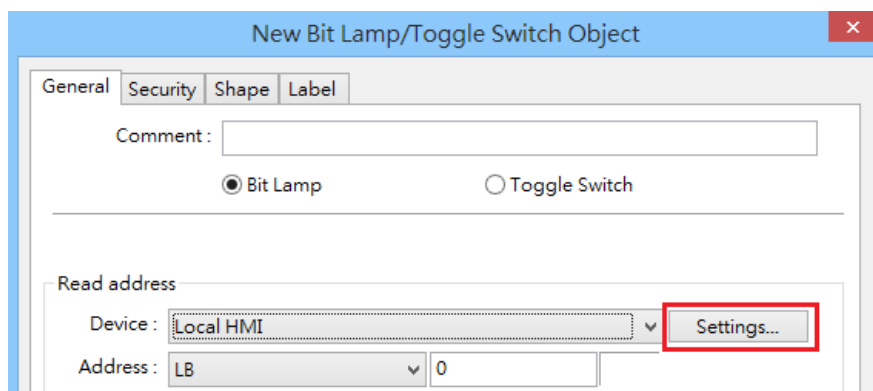
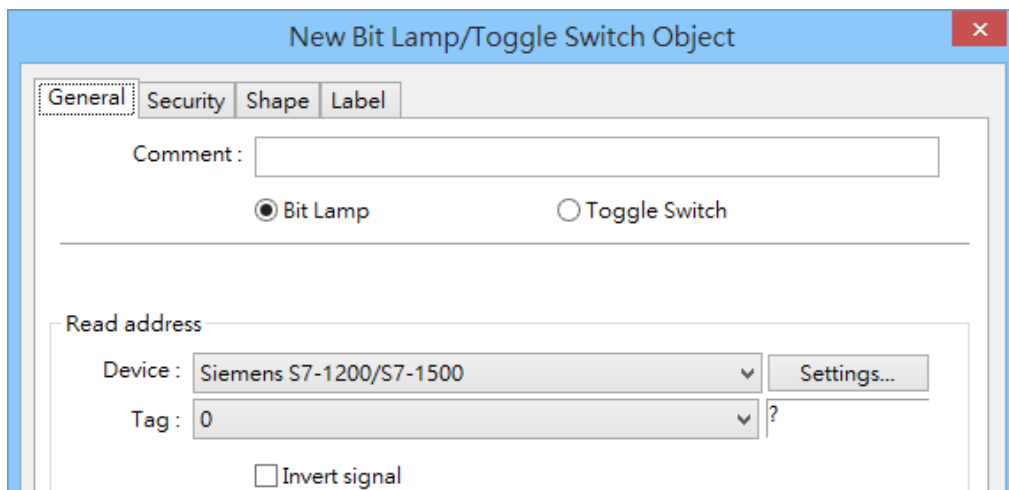5. Added Tag Manager that allows selecting the Siemens S7-1500 PLC tags to be imported.
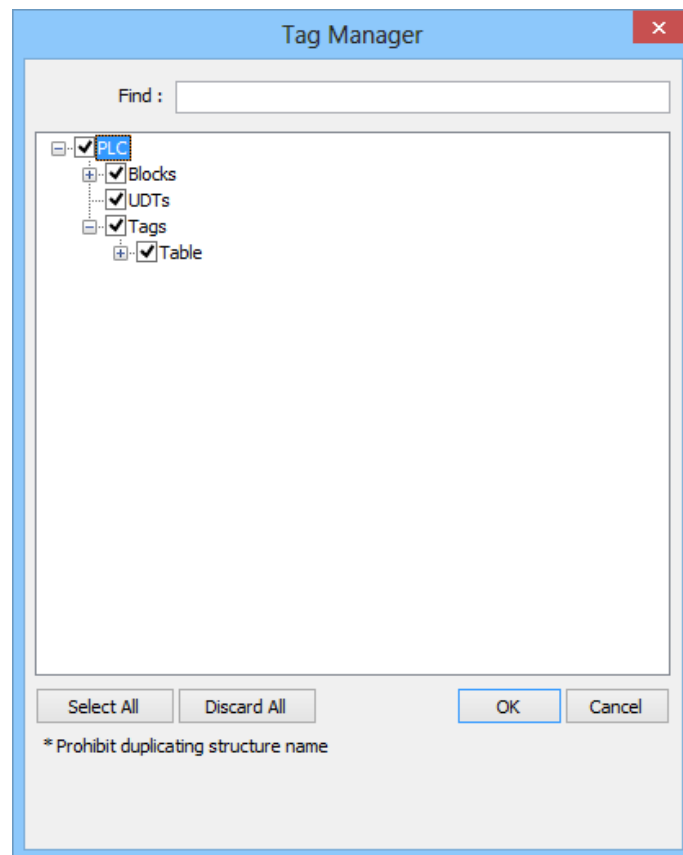
*Note: Prohibit duplicating structure name

6. Create an object and click read address "**Settings…**"

7. In PLC name select S7-1200/1500 then click Tag.

8. Select PLC tag.

Import Tags

Apart from using Get Tag on HMI, tags from Siemens TIA project can be imported in EasyBuilder Pro.

* At least one db file must be imported. If only plc tags cannot be imported successfully.

1. In System Parameter Settings add S7-1200/1500 into the device list and then click **[Import Tags…]**.
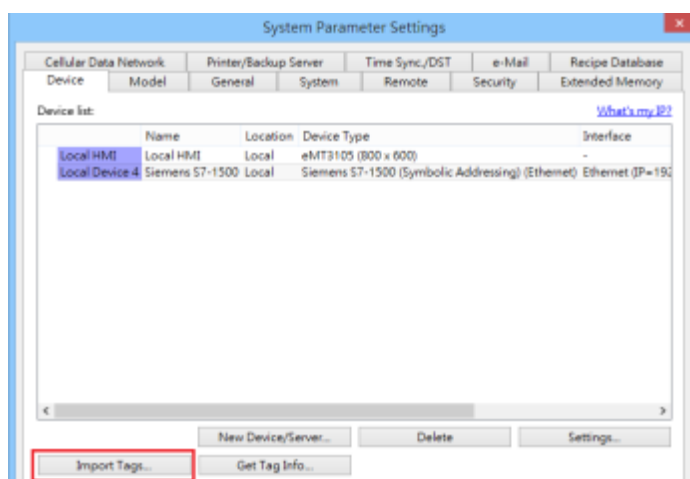
2. Select the ***.ap*(*.apxx)** file.
   When the *.ap file cannot be imported, you can try **[Project]** -> **[Archive]** and then import it again.
   *Note1. Before importing TIA Files, users need to compile the file and download it to the PLC.
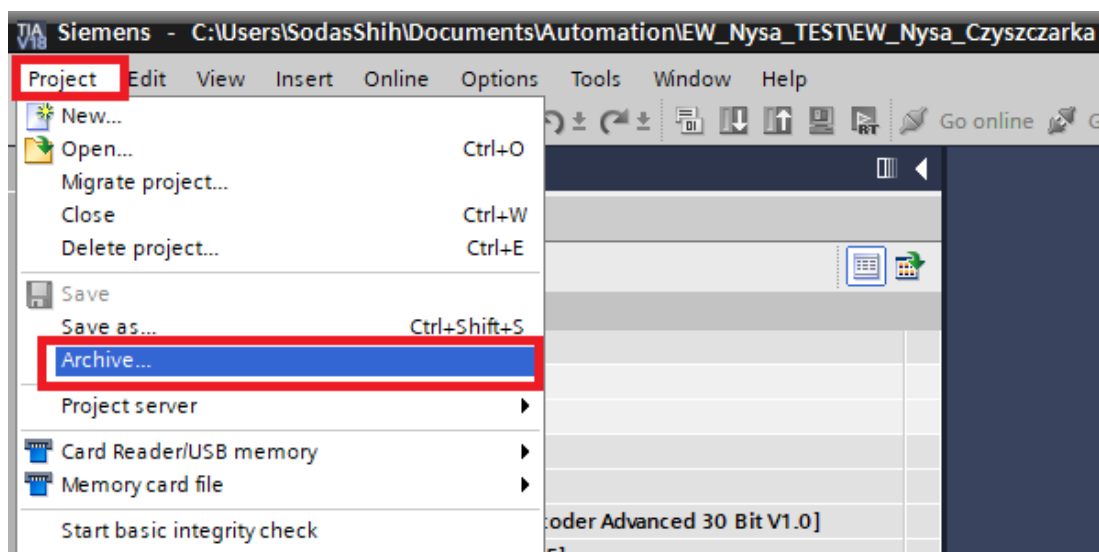
3. Select the tags to be imported and then click **OK**.

   (Support multiple devices in the same project)

4. Tags are imported successfully.

Support Device Type:

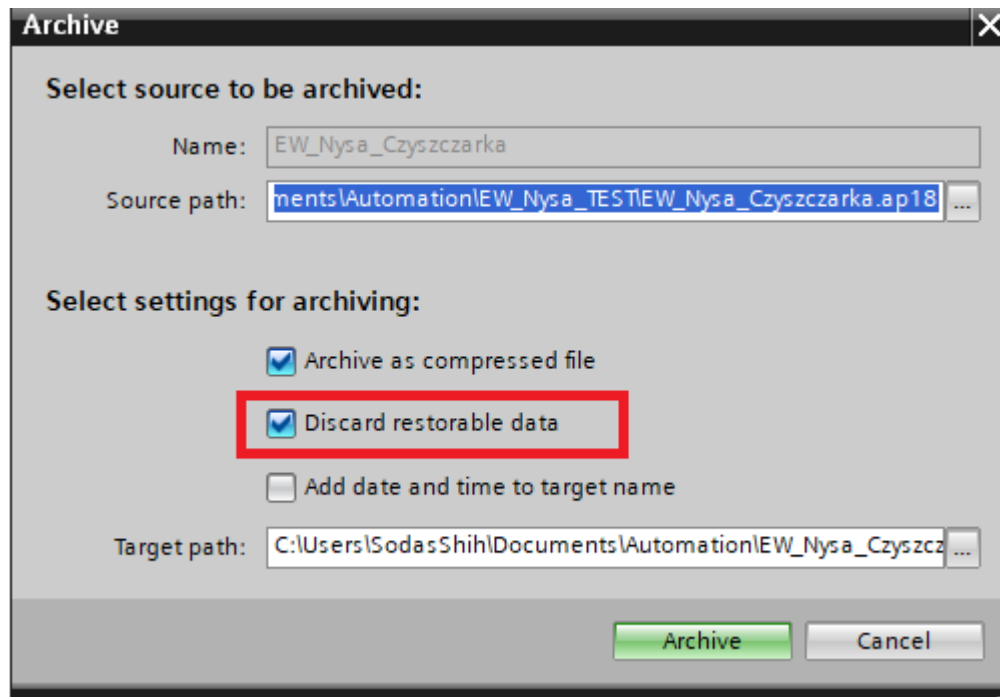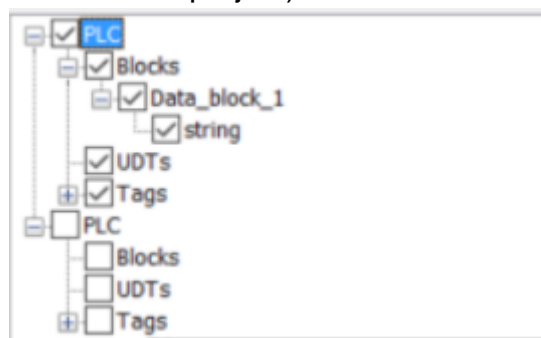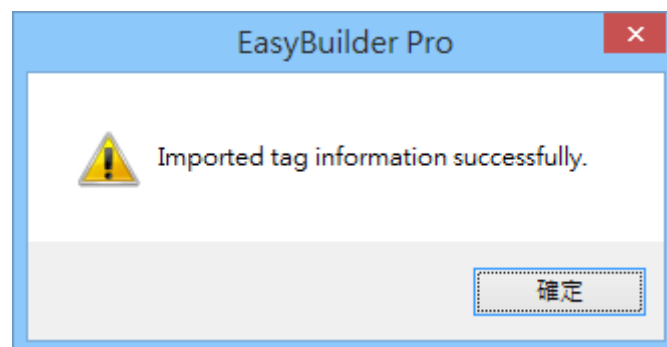| Data type	EasyBuilder data format	Memo
Bool	bit	
Byte	16-bit BCD, Hex, Binary, Unsigned	8-bit
SInt	16-bit BCD, Hex, Binary, Signed	8-bit
USInt	16-bit BCD, Hex, Binary, Unsigned	8-bit
Word	16-bit BCD, Hex, Binary, Unsigned	16-bit
Int	16-bit BCD, Hex, Binary, Signed	16-bit
UInt	16-bit BCD, Hex, Binary, Unsigned	16-bit
DWord	32-bit BCD, Hex, Binary, Unsigned	32-bit
DInt	32-bit BCD, Hex, Binary, Signed	32-bit
Real	32-bit Float	32-bit
UDInt	32-bit BCD, Hex, Binary, Unsigned	32-bit
String		Max: 256
WString		
DTL		Read only
IEC_COUNTER		
IEC_DCOUNTER		
IEC_SCOUNTER		
IEC_UCOUNTER		
IEC_UDCOUNTER		
IEC_USCOUNTER		
Time	32-bit BCD, Hex, Binary, Unsigned	DWord
Time_Of_Day	32-bit BCD, Hex, Binary, Unsigned	DWord
Array		Bool, Byte, SINT, USInt, Word, Int, UInt, DWord, Dint, Real, UDInt String
Struct		Bool, Byte, SINT, USInt, Word, Int, UInt, DWord, Dint, Real, UDInt, String

- String array can be used with index register.

Device :	Siemens S7-1500
Tag :	PLC.Blocks.TONY.carey_word[0]
Data type :	WORD
Address format :	PLC.Blocks.TONY.carey_word[0 + INDEX 0]
Index :	Index 0 (16-bit) ☑ Index register
Element count :	32
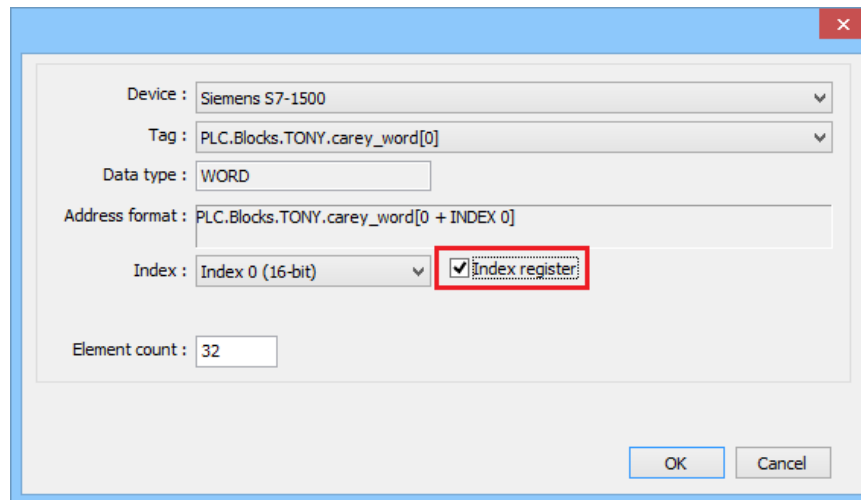
- Both single-dimensional arrays and multi-dimensional arrays can start with non-zero values.
  Example: [1..9] , or [1..3,2..5]

- Importing data types other than those in the above table may result in failure to communicate.

- Address tags do not allow the use of special characters, such as: **[ ] " ",.** etc., which may cause unexpected situations such as import exceptions or communication exceptions.

Wiring Diagram:

Ethernet cable:

W/Orange	1		1	W/Orange
Orange	2		2	Orange
W/Green	3		3	W/Green
Blue	4		4	Blue
W/Blue	5		5	W/Blue
Green	6		6	Green
W/Brown	7		7	W/Brown
Brown	8		8	Brown