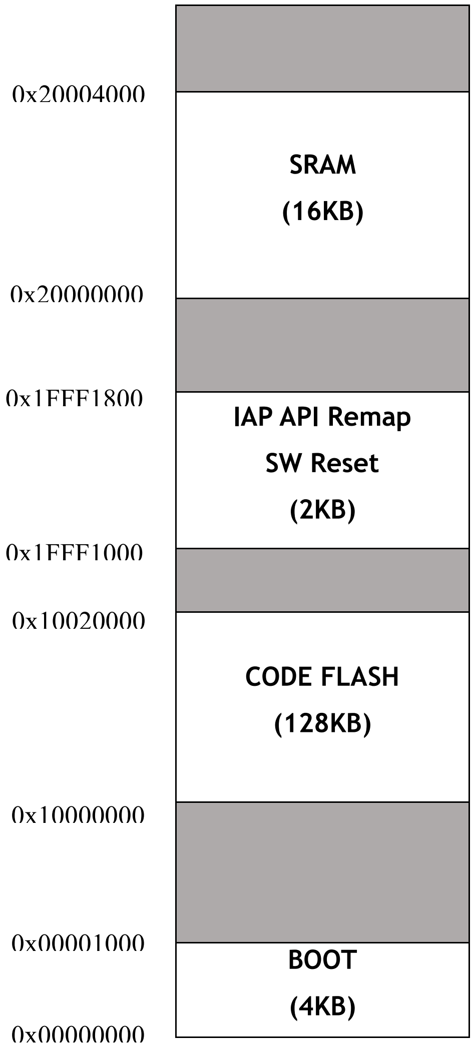
WIZISP Communication Protocol

Version 1.0

http://www.wiznet.io

1. Memory Map in Boot Mode



2. Command SET

COMMAND	Parameters	Description
ERAS	<Param1> <Param1> <Param2>	Erase Flash Sector
DOWN	<Param1> <Param2>	Download Data into SRAM
PROG	<Param1> <Param2> <Param1>…<Param4>	Program SRAM data into Data Sector or Code Area
DUMP	<Param1> <Param2>	Dump Data from Flash Area
XPRG	<Param1> <Param2>	Program Data into Flash or SRAM area using XMODEM
LOCK	<Param1> <Param1>…<Param3>	Read Lock Information or Program Lock Information
REST	<No Param>	Reset by software

Every command should terminate with <CR>. W7500(P) ISP Code waits <CR> to manipulate a command.

2.1 ERAS

Command Format	Example	Description
ERAS **DAT0**	***ERAS DAT0***	Erase Data Sector 0
ERAS **DAT1**	***ERAS DAT1***	Erase Data Sector 1
ERAS **SECT <Addr>**	***ERAS SECT 10001000***	Erase Code Sector the starting address of which is 0x00001000
ERAS **BLCK <Addr>**	***ERAS BLCK 10002000***	Erase Code Block the starting address of which is 0x00002000
ERAS **CHIP**	***ERAS CHIP***	Erase all Code Blocks
ERAS **MASS**	***ERAS MASS***	Erase all Code Blocks and Data Sectors

2.2 DOWN

Command Format	Example	Description
DOWN **<Addr**[1] **>** **<Size>**[2] **<Data**[3]**>**	***DOWN 20000000 00000100 abcd….***	Download Data into SRAM from <Addr> for <Size> bytes. <Addr> should be belonged to SRAM area and <Size> is Hexadecimal format.

2.3 PROG

Command Format	Example	Description
PROG **DAT0**	***PROG DAT0 20000000***	Program Data in SRAM into Data Sector 0
PROG **DAT1**	***PROG DAT1 20000000***	Program Data in SRAM into Data Sector 1
PROG **CODE <Addr1> <Addr2> <Size>**	***PROG CODE 10000000 200000000 00000100***	Program Data in SRAM from <Addr2> address by <Size> bytes into Flash starting <Addr1>. Data should be in SRAM via ‘DOWN’ command before issuing ‘PROG’ command.

2.4 DUMP

Command Format	Example	Description
DUMP **<Addr> <Size>**	***DUMP 20000000 00000100***[4]	Dump Data in Flash/SRAM by <Size> bytes from <Addr> address.

[1] <Addr> Parameter should be eight Hex format ASCII characters with ‘0’s preceding if needed.

[2] <Size> Parameter should be eight Hex format ASCII characters with ‘0’s preceding if needed.

[3] <Data> should be binary code. For example, 0x11 0x12 0x13 ….

[4] The format of Reply is **<Addr>:<Data>**. ***For example, 10000000:B2C06940***

2.5 XPRG

Command Format	Example	Description
XPRG **<Addr> <Size>**	***XPRG 10000000 00000100***	Program Data into Flash or SRAM by <Size> bytes from <Addr> address and Data should be transferred via XModem protocol.

2.6 LOCK

Command Format	Example	Description
LOCK **READ**	***LOCK READ***[5]	Read current Lock Information
LOCK PROG <FLOCKR0[6]> <FLOCKR1[7]>	***LOCK PROG 80000000 00000000***	Program Lock Information

2.6.1 Flash Lock Register 1 (FLOCKR0)

31	30	29 ~ 4	3	2	1	0
CRL	CBWLA	Reserved	DRL1	DRL0	DWL1	DWL0

CRL : Code Read Lock, all code blocks are locked for reading with this bit set.

CBWLA : All Code Block Write Lock, all code blocks are locked for writing with this bit set.

DRL1/0 : Data Sector 1/0 Read Lock

DWL1/0 : Data Sector 1/0 Write Lock

2.6.2 Flash Lock Register 2 (FLOCKR1)

31	30	29 ~ 4	3	2	1	0

[5] The format of Reply is two eight-length hexadecimal format Lock information strings and Return value.

For example, ***C0000000 FFFFFFFF<CR><LF>0***

[6] Flash Lock Register 0

[7] Flash Lock Register 1

CWL31	CWL30	…	CWL3	CWL2	CWL1	CWL0

CWL[31:0] : Write Lock for the corresponding Code Block

2.7 REST

Command Format	Example	Description
REST[8]	***REST***	Reset by software

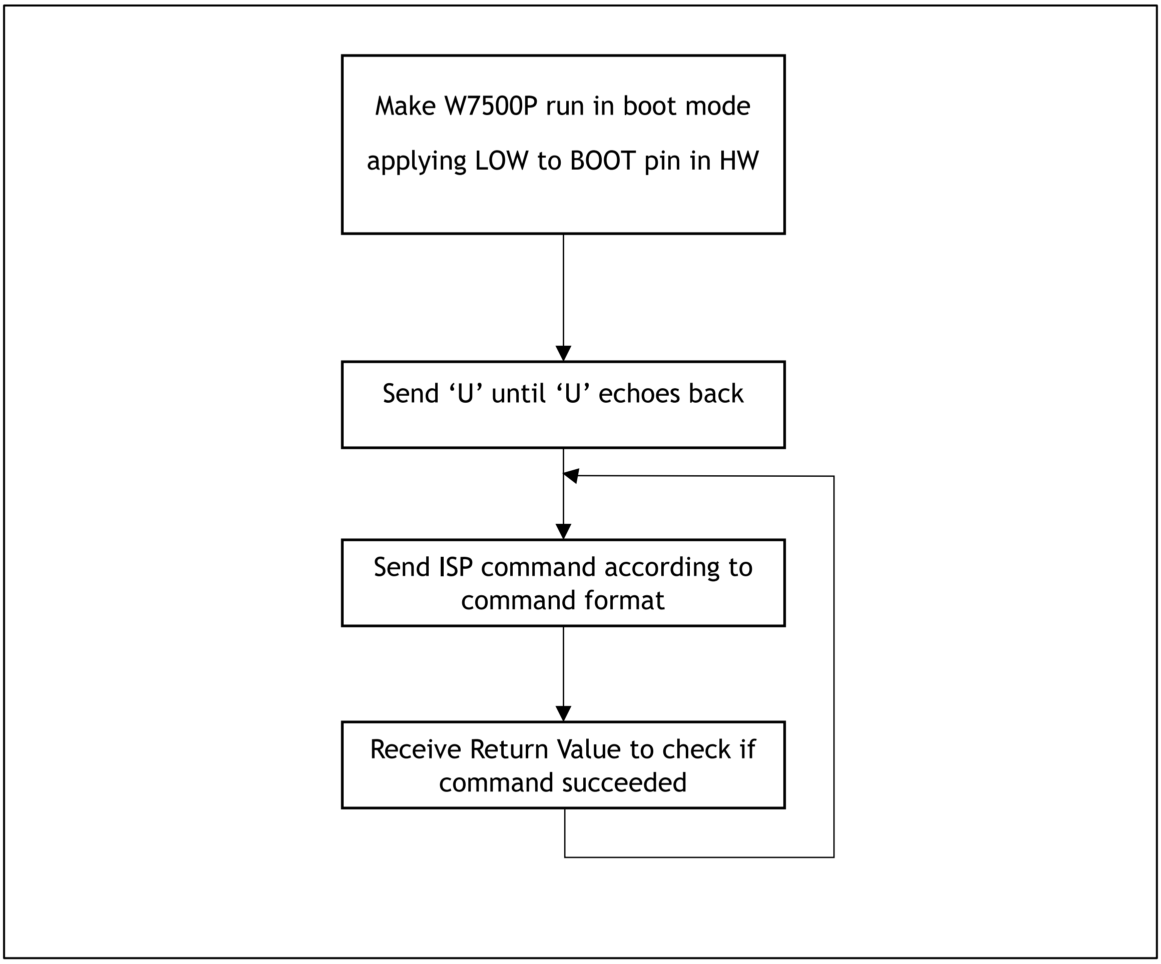
[8] No Parameter

3. Return Value

Return Value (ASCII)	Description
0	Succeeded
1	Invalid Size
2	Invalid Address
3	Invalid Command
4	No Privilege to Flash
5	Invalid Parameter
6	Read Lock Protected
7	Write Lock Protected
8	Reset

Every Response is followed by <CR><LF>

4. Working Flow


Make W7500P run in boot mode
applying LOW to BOOT pin in HW
Send ‘U’ until ‘U’ echoes back
Send ISP command according to command format
Receive Return Value to check if command succeeded