



Dragonchip

DC6688SLP-USB Rev3.1 User Manual

User Manual of Programming Tool DC6688SLP-USB Rev3.0/3.1
Single Line Programmer for DC6688F family with USB interface

User Manual
Document Revision 1.5

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1 Introduction

This document briefly describes the details of the programming tool “Single Line Programmer for DC6688F family with USB interface” with model number “DC6688SLP-USB Rev3.1”.

1.1 Ordering Information

Device Name	Single Line Programmer for DC6688F/DC6388F family with USB interface
Model Number	DC6688SLP-USB Rev3.1

1.2 Features

- ✧ **Standalone** – download data to devices without connection to PC
- ✧ **1 to 10** – download data to up to 10 devices simultaneously
- ✧ **Optimized Speed** – download 2KB data to flash in 1.6 seconds
- ✧ **2-color LED** – indicate downloading result
- ✧ **Backlight LCD** – show device and customer information
- ✧ **SLP Software** – simple user interface

1.3 Package

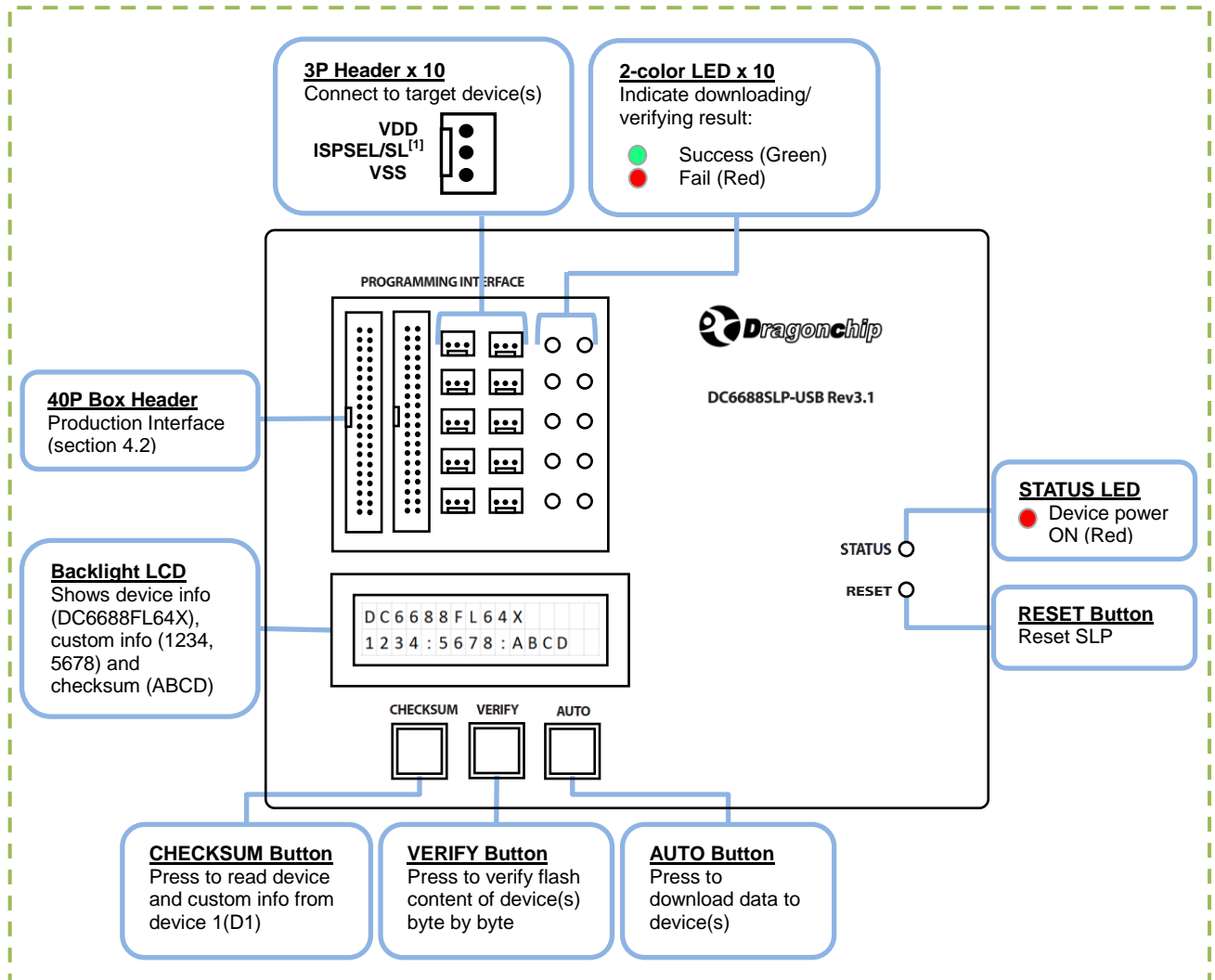
1. Single Line Programmer (SLP)
2. Power Adaptor with 9VDC Output
3. USB2.0 Cable
4. User Manual
5. Software Installation CD

1.4 Useful Links

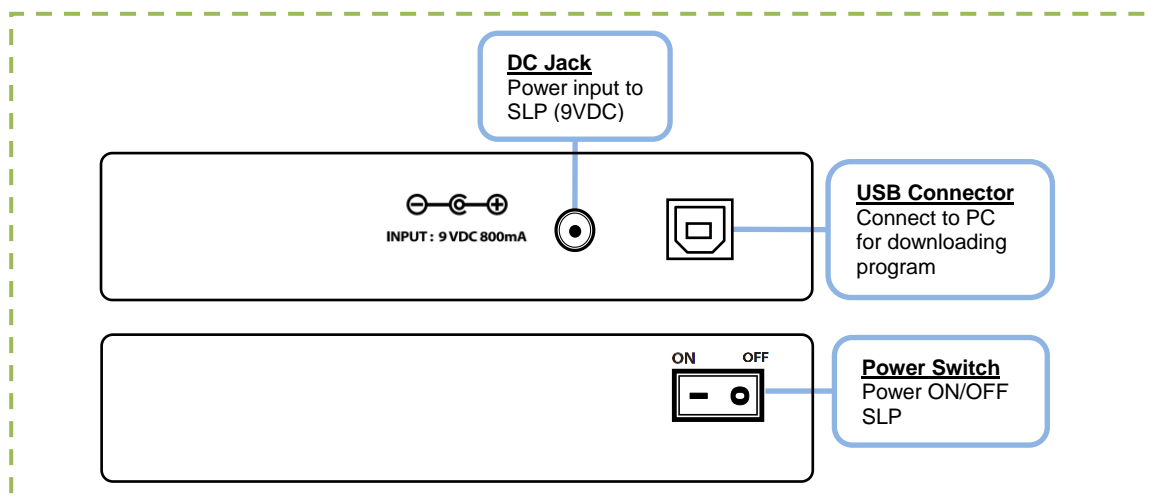
1. SLP Page – download latest software installer and user manual
<http://www.dragonchip.com/TechDoc/DevelopmentTools/SLP.htm>
2. Technical Website of DC6688 Product Family
<http://www.dragonchip.com/TechDoc/DC6688.htm>

2 Hardware Description

Top View



Side View



Remarks:

[1] Device pin connection is shown below:

A) Device using external resonator

Device	Pin name
F2 series	SL
FL and FS series	ISPSEL

B) Device using build-in resonator

Device pin name: SL

3 SLP Software

Install the SLP software (version 6.7.4 or above) by the software installation CD.

3.1 Minimum System Requirements

- Microsoft Windows XP (Service Pack 3)
- Intel Pentium 4 CPU running at 1.5GHz or higher

3.2 User Interface

Model (2 bytes) – configure by Custom Info file
Version (2 bytes) – configure by Custom Info file
Checksum (2 bytes) – generate automatically from Program file

4 Download to Device

The SLP is able to download data to up to 10 devices simultaneously. The target device(s) should be connected to SLP either via the 10 pieces 3P Header or the 40P Box Header.

4.1 Downloading Time

The following table listed the downloading time from SLP to various DC6688 products:

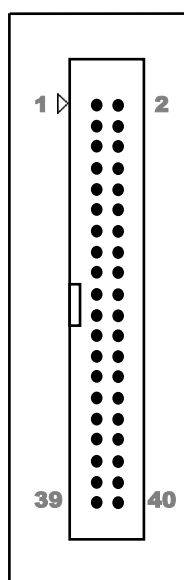
Target Device		Flash Size	Downloading Time	
			4MHz	12MHz
DC6688	F2SCN	2KB	1.60s	1.4s
	F2STR	2KB	-	1.6s
	F2SB	2KB	-	1.4s
	F30SE	30KB	-	4.2s
	F30ST	30KB	-	4.5s
	FL32E	32KB	-	4.6s
	FL32T	32KB	-	4.8s
	F62SE	62KB	-	8.2s
	FL64X/FL64T	64KB	-	8.4s
	FL96T	96KB	-	11.5s

4.2 40P Box Header

The main purpose of this interface is for programming setup in production. For further recommendation, please contact Dragonchip technical support team.

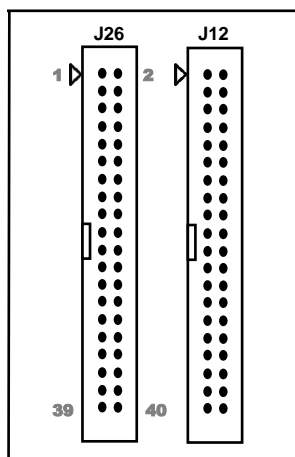
4.2.1 SLP Rev3.0

There are 5 clock output pins from this header. Each clock output pin could be shared by 2 target devices. The connector pin assignment and suggested connection to target devices (D1-D10) are listed in the following table.



Pin	Name	Connection	Pin	Name	Connection
1	CLK1	D1, D2 XIN	2	GND	GND
3	NC	-	4	ISPSEL/SL1	D1 ISPSEL/SL
5	CLK2	D3, D4 XIN	6	ISPSEL/SL2	D2 ISPSEL/SL
7	NC	-	8	ISPSEL/SL3	D3 ISPSEL/SL
9	CLK3	D5, D6 XIN	10	ISPSEL/SL4	D4 ISPSEL/SL
11	NC	-	12	ISPSEL/SL5	D5 ISPSEL/SL
13	CLK4	D7, D8 XIN	14	ISPSEL/SL6	D6 ISPSEL/SL
15	NC	-	16	ISPSEL/SL7	D7 ISPSEL/SL
17	CLK5	D9, D10 XIN	18	ISPSEL/SL8	D8 ISPSEL/SL
19	GND	GND	20	NC	-
21	NC	-	22	GND	GND
23	NC	-	24	GND	GND
25	NC	-	26	GND	GND
27	NC	-	28	NC	-
29	VDD	VDD	30	GND	GND
31	VDD	VDD	32	ISPSEL/SL9	D9 ISPSEL/SL
33	VDD	VDD	34	ISPSEL/SL10	D10 ISPSEL/SL
35	VDD	VDD	36	NC	-
37	VDD	VDD	38	NC	-
39	NC	-	40	GND	GND

4.2.2 SLP Rev3.1



J26 Pin Assignment

Pin	Name	Connection	Pin	Name	Connection
1	LCD_P9	LCD module pin 9 (DB2)	2	GND	GND
3	LCD_P8	LCD module pin 8 (DB1)	4	LCD_P10	LCD module pin 10 (DB3)
5	LCD_P7	LCD module pin 7 (DB0)	6	LCD_P11	LCD module pin 11 (DB4)
7	LCD_P6	LCD module pin 6 (E)	8	LCD_P12	LCD module pin 12 (DB5)
9	LCD_P5	LCD module pin 5 (R/W)	10	LCD_P13	LCD module pin 13 (DB6)
11	LCD_P4	LCD module pin 4 (RS)	12	LCD_P14	LCD module pin 14 (DB7)
13	LCD_P3	LCD module pin 3 (VEE)	14	LCD_P15	LCD module pin 15 (LED+)
15	LCD_P2	LCD module pin 2 (VCC)	16	LCD_P16	LCD module pin 16 (LED-)
17	LCD_P1	LCD module pin 1 (VSS)	18	GND	GND
19	GND	GND	20	NC	-
21	CLK1	D1 XIN pin	22	GND	GND
23	CLK2	D2 XIN pin	24	GND	GND
25	CLK3	D3 XIN pin	26	GND	GND
27	CLK4	D4 XIN pin	28	GND	GND
29	CLK5	D5 XIN pin	30	GND	GND
31	CLK6	D6 XIN pin	32	GND	GND
33	CLK7	D7 XIN pin	34	GND	GND
35	CLK8	D8 XIN pin	36	GND	GND
37	CLK9	D9 XIN pin	38	GND	GND
39	CLK10	D10 XIN pin	40	GND	GND

J12 Pin Assignment

A) Device using external resonator

Pin	Name	Connection	Pin	Name	Connection
1	LED_R_1	Red LED cathode for D1	2	GND	GND
3	LED_G_1	Green LED cathode for D1	4	LED_G_6	Green LED cathode for D6
5	LED_R_2	Red LED cathode for D2	6	LED_R_7	Red LED cathode for D7
7	LED_G_2	Green LED cathode for D2	8	LED_G_7	Green LED cathode for D7
9	LED_R_3	Red LED cathode for D3	10	LED_R_8	Red LED cathode for D8
11	LED_G_3	Green LED cathode for D3	12	LED_G_8	Green LED cathode for D8
13	LED_R_4	Red LED cathode for D4	14	LED_R_9	Red LED cathode for D9
15	LED_G_4	Green LED cathode for D4	16	LED_G_9	Green LED cathode for D9
17	LED_R_5	Red LED cathode for D5	18	LED_R_10	Red LED cathode for D10
19	GND	GND	20	NC	-
21	LED_G_5	Green LED cathode for D5	22	GND	GND
23	LED_R_6	Red LED cathode for D6	24	GND	GND
25	NC	-	26	GND	GND
27	KEY_CS	CHECKSUM Key (short to GND)	28	LED_G_10	Red LED cathode for D10
29	VCC_LED	Power supply for LED	30	GND	GND
31	VCC_LED	Power supply for LED	32	GND_VF	VERIFY Key (short to GND)
33	VCC_LED	Power supply for LED	34	KEY_AUTO	AUTO Key (short to GND)
35	VCC_LED	Power supply for LED	36	NC	-
37	VCC_LED	Power supply for LED	38	NC	-
39	NC	-	40	GND	GND

B) Device using build-in resonator

Pin	Name	Connection	Pin	Name	Connection
1	NC	-	2	GND	GND
3	PROG / MODE	Programming mode	4	NC	-
5	NC	-	6	NC	-
7	NC	-	8	NC	-
9	NC	-	10	NC	-
11	NC	-	12	NC	-
13	NC	-	14	NC	-
15	NC	-	16	NC	-
17	NC	-	18	NC	-
19	GND	GND	20	NC	-
21	NC	-	22	GND	GND
23	NC	-	24	GND	GND
25	NC	-	26	GND	GND
27	KEY_CS	CHECKSUM Key (short to GND)	28	LED_G_10	Red LED cathode for D10
29	VCC_LED	Power supply for LED	30	GND	GND
31	VCC_LED	Power supply for LED	32	KEY_VF	VERIFY Key (short to GND)
33	VCC_LED	Power supply for LED	34	KEY_AUTO	AUTO Key (short to GND)
35	VCC_LED	Power supply for LED	36	NC	-
37	VCC_LED	Power supply for LED	38	NC	-
39	NC	-	40	GND	GND

5 Revision History

The following table shows the revision history for this document.

Document Rev No.	Issued Date	Section	Page	Description	Edited by	Reviewed by
1.0	May, 2012			First release	Celia Ki	Danny Ho
1.1	May, 2012	3.3	5	Add note info for software installation	Celia Ki	Danny Ho
1.2	Apr, 2013	2,4	-	Revise for SLP 3.1	Celia Ki	Danny Ho
1.3	June, 2014	2, 4.2.2		Add build-in resonator device	Danny Ho	Celia Ki
		3.3		Removed		
1.4	Dec, 2014	4.1		Add new products	Danny Ho	Celia Ki
1.5	Jan, 2015	3.2		Updated UI	Danny Ho	Celia Ki

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