ReadMe First

概要解説書

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Contents

第 1 章 SGM (Smart Graphic Module Plus)の紹介 Start Kit 2

1.1 まえがき 2

1.2 P/N of Start Kit の型番 2

1.3 Packaging List.....3

1.4 SGM Plus CD の詳細内容 6

第 2 章 Start Kit の動作モード 7

2.1 Auto Mode.....7
2.2 UART Mode.....8
2.3 MCU Mode.....10

第 3 章 SGM Plus の開発プロセス..... 11

3.1 SGM Plus 開発プロセス 11

第 4 章 Basic/ Advanced 開発資料 15

4.1 Basic Development Items.....15
4.2 Advanced Development Items 16

Appendix A: Profile 更新の方法 (SGM_Plus.BIN) 7" module を参照 17

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第１章　SGM (Smart Graphic Module Plus) Start Kitの紹介

1.1 まえがき

ユーザーがこのReadMe Firstをご覧になると次のことが容易に理解できます。

1. Start Kitに含まれるAccessories類, operation manuals, application and guidance to examples.
2. Start KitによりSGM PLUSの動作デモを簡単に体験できます。
3. 開発に必要なツールやマニュアルのデモンストレーション
4. 第４章で紹介する Operation Manuals and Introductions を参照して説明。
5. 複数のデモサンプルがユーザーの開発ヒントとなると確信します。

1.2　Start Kitの種類と型番

Size (Res.)	Start Kit P/N	Standard Module P/N	
3.5”(320x234)	FPEP035QA4-00R	FP035QIA14-00R	
4.3”(480*272)	FPEP043YA4-00R	FP043YIA14-00R	
5.6” (640x480)	FPEP056VA4-00R	FP056VIA04-00R	
7” (800x480)	FPEP070WA4-00R	FP070WIA04-00R	
10.4”(800x600)	FPEP104SA4-00R	FP104SIA24-00R	

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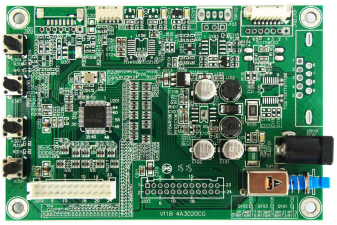
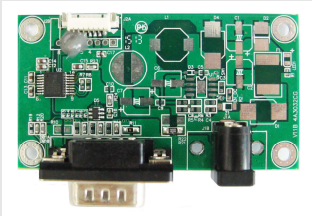
CD の中にある仕様書を参照ください。

Path	File Name
CD:\Specifications\ FP035QIA1x-00R\	FP035QIA1x-00R.pdf
CD:\Specifications\ FP043YIA1x-00R\	FP043YIA1x-00R.pdf
CD:\Specifications\ FP056VIA0x-00R\	FP056VIA0x-00R.pdf
CD:\Specifications\ FP070WIA0x-00R\	FP070WIA0x-00R.pdf
CD:\Specifications\ FP104SIA2x-00R\	FP104SIA2x-00R.pdf

1.3 Packaging List

NO	Item	Order P/N	Picture	Note
1	Graphic Control Kit (GCK-003)	LOMCU0003B- FDR		
2	SGM Plus 5V Input + RS232 to UART	LOPOWER011-FDR		
3	USB To UART Converter Board	LOUSB00001-FDR		
4	Power Cord for Europe (L:1800mm) (shipping depend on Area)	LACABLE047-FDR		
5	Power Cord for USA (L:1800mm) (shipping depend on Area)	LAAC818000-FDR		

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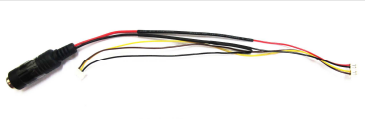
6	L:1500mm,100-240VAC 47-63Hz to +5VDC @ 3A,ψ2.5	LASTD05030-FDR		
7	USB Extended Cable (A-Type Plug _A-Type Receptacle L:1800mm)	LAUSB18001-FDR		
8	RS232 Cable Female/Female Null Modem type L:1800mm (white)	LACABLE045-FDR		
9	Power & UART Cable 7Pin 2.0mm to DC Jack+4Pin 1.25mm (L:150mm)	LACABLE008- FDR		for 4.3”~10.4”
10	Power & UART Cable 5Pin 1.25mm to DC Jack+4Pin 1.25mm (L:150mm)	LACABLE012-FDR		for 3.5” only
11	GCK-003 Signal Cable 7Pin 2.0mm to 7Pin 1.25mm (L:150mm)	LACABLE009- FDR		for 4.3”~10.4”
12	CK-003 Signal Cable 5Pin 1.25mm to 7Pin 1.25mm (L:150mm)	LACABLE016-FDR		for 3.5” only
13	Cable 5Pin 1.25mm to 4Pin 1.25mm(L:120mm)	LACABLE010-FDR		
14	Micro SDHC 4GB	LASDCD0001-FDR		
15	PIN HEADER 2.0mm 2P Jumper (Black)	LACONN0016-FDR		

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16	Micro SD to USB adapter	LASDCD0003-FDR		
17	CR1220 Li-ion Battery(3V)	LABATT0001-FDR		
18	DVD-ROM Disk	LADVD00003- FDR		

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1.4 Index in CD of SGM Plus

Smart Graphic Module Plus

SGM Plus-00000000

- Application Note
  - Arranger Plus Note
    - Chinese
    - English
    - Japanese
  - Command_pilot2 Note
    - Chinese
    - English
    - Japanese
  - SGM Plus Note
    - Chinese
    - English
    - Japanese
  - USB To Uart Converter Note
    - Chinese
    - English
    - Japanese
- Demo
  - 3.5_320x240
  - 4.3_480x272
  - 5.6_640x480
  - 10.4_800x600
- Project of Standard Module
  - Documents
  - FP035QIA1x-00R
    - Project
    - UART Example
  - FP043YIA1x-00R
    - Project
    - UART Example
  - FP056VIA0x-00R
    - Project
    - UART Example
  - FP070WIA0x-00R
    - Project
    - UART Example
  - FP104SIA2x-00R
    - Project
    - UART
- Specifications
  - FP035QIA1x-00R
  - FP043YIA1x-00R
  - FP056VIA0x-00R
  - FP070WIA0x-00R
  - FP104SIA2x-00R
- Start Kit
  - Documents
  - FPEP035QAx-00R
    - Project
  - FPEP043YAx-00R
    - Project
  - FPEP056VAx-00R
    - Project
  - FPEP070WAx-00R
    - Project
  - FPEP104SAx-00R
    - Project
  - GCK-003 Tools
    - GCK-003 Circuit
    - GCK-003 FW
      - Source Code
        - Demo
        - Demo_Compact
        - Library
        - Template
    - UartISP
    - WT61P9 Datasheet
  - UART Example
    - Demo
    - Demo Compact
- Tools(software)
  - Arranger Plus
    - Arranger+ V1.x.x
    - Chinese
    - English
    - Japanese
  - FDT-Command_pilot2
  - NET_Framework_4.5.2
- Picture_Library
  - 320x240
    - Standard Module
    - Start Kit
  - 480x272
    - Standard Module
    - Start Kit
  - 640x480
    - Standard Module
    - Start Kit
  - 800x480
    - Standard Module
    - Start Kit
  - 800x600
    - Standard Module
    - Start Kit
- USB to UART Converter Driver
  - CDM v2.08.30 WHQL Certified
    - amd64
    - i386
    - Static

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第 2 章 Start Kitの評価

Start Kit の default demonstration mode は Auto, UART および MCU mode があります。

詳細は次を参照ください。 ”CD: \Start Kit\Documents\Start_Kit_Demo_User_Guide.pdf”

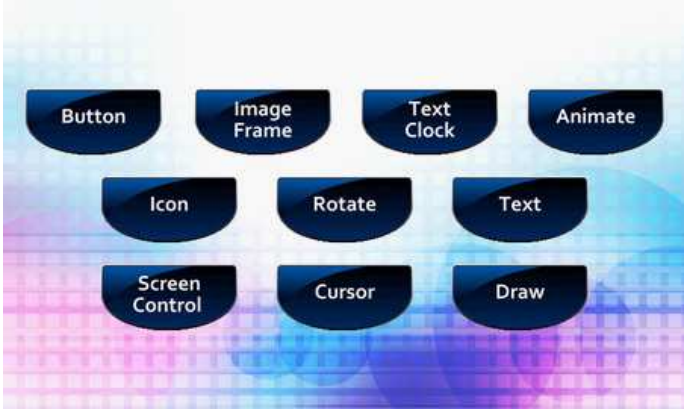
2.1 Auto Mode

Auto Mode に入ると ICON での各種 demo を体験できます。

Step1：Please refer to ’CD:\ SGM_Plus_Quick_Start.pdf’ for assembling details.

Boot Screen is as below.

Step2：Click “Auto” to enter AUTO MODE.



Step3：ICON をクリックすると割当てられた機能 demo をみることができます。

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2.2 UART Mode

Pre-install された "StartKit_Demo_xxx.txt" を使って次の接続モードの機能をデモ体験できます。
USB- to-UART-Converter-Board の接続および PC で CommandPilot2 を使用してのデモ。

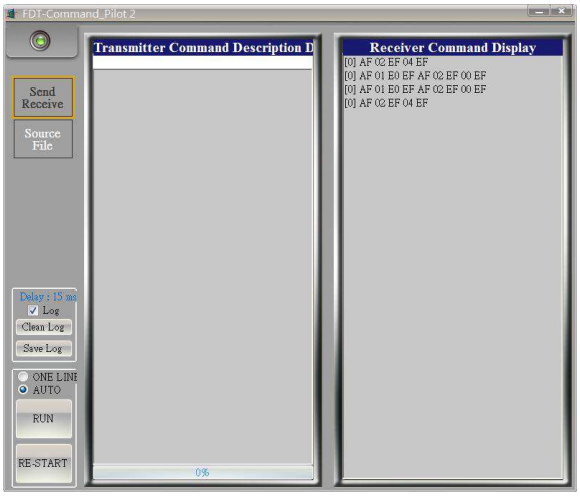
詳細資料： "CD: \Start Kit\Documents\Start_Kit_Demo_User_Guide.pdf" for details.

Step1：アッセンブリに際しての詳細は 'CD:\ SGM_Plus_Quick_Start.pdf' をご覧ください。

起動画面は次のとおりです。

Step2：Click UART to enter the page below.

Step3：Command_Pilot2 に "StartKit_Demo_xxx.txt" を import するとデモを体験できます。



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関連ツール 2-2-1

Items	Path	File Name	Remarks
Command Pilot2 Operation Guide	CD:\ Tools(software) \FDT-Command_pilot2	Command_Pilot2_Operation_Guide.pdf	Read this first.
SGM Plus UART Command Manual	CD:\ Tools(software) \ FDT-Command_pilot2\	SGM_Plus_UART_Command_Manual.pdf	
USB to UART Converter Installation Guide	CD: \ Tools(software)\ USB to UART Converter Driver\	USB_to_UART_Converter_Installation _Guide.pdf	
USB to UART Converter Driver	CD: \ Tools(software) \ USB to UART Converter Driver \CDM v2.08.30 WHQL Certified\	-	
Command_Pilot2	CD:\ Tools(software) \ FDT-Command_pilot2\	FDT-Command_pilot2(2.6.10.1)	
Command_Pilot2 demo examples	CD:\Start Kit \UART Example\Demo	StartKit_Demo_xxx.txt	15 items in total

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2.3 MCU Mode

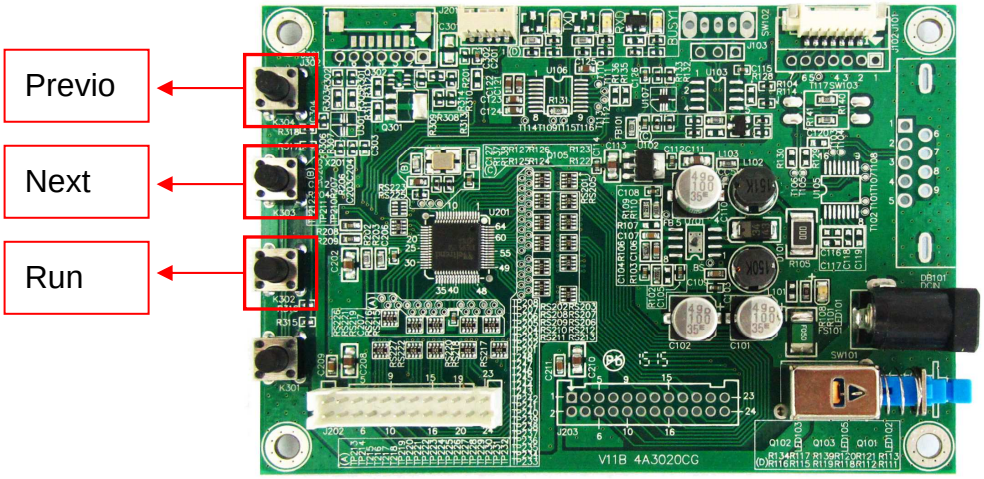
MCU controller board (GCK-003)を経由した preinstall サンプルのデモ

詳細は "CD: \Start Kit\Documents\Start_Kit_Demo_User_Guide.pdf" を参照

Step1：アッセンブリに際して詳細は'CD:\ SGM_Plus_Quick_Start.pdf' を参照ください。

起動画面は次のとおりです。

Step2：Press buttons on GCK-003 to run demo examples.



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第 3 章 SGM Plus Development Process

3.1 SGM Plus 開発の手順

Item	Tools	Flow Chart	Note
1	1.PC + Windows 7/8 2.FDT Arranger Plus 3.Photo Shop/Illustrator		Remarks 3-1
2	1.Windows 7/8 PC 2.Photo Shop/Illustrator	Process images/ icons required in users' projects.	PNG format is recommended.
3	1.Windows 7/8 PC 2.FDT Arranger Plus 3.BMP/PNG images 4.Build Font	B 1. Import images/icons into Arranger+ 2. Generate art words or fonts via	Remarks 3-1
4	1.Windows 7/8 PC 2.FDT Arranger Plus	Build user-defined GUI profile (xxx.ar2) and configure MACRO.	Remarks 3-1 Note1
5	1. Windows 7/8 PC 2. FDT Arranger Plus 3. SGM Plus TFT Module 4. Micro SD Card	Restore profile (SGM_Plus.BIN) from Arranger to Micro SD Card and then update to SGM Plus	Remarks 3-1 Appendix A How to update profile
6	1. SGM Plus Module 2. 2.GCK-003	Set up SGM Plus & MCU (GCK-003)	Remarks 3-2 How to connect each part in SGM PLUS.
7	Program Compiler 1.KEIL C FOR GCK-003 3. User-Defined	A Program & debug at users.	MCU Board can be FDT's GCK-003 Board or users' device.

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Item	Tools	Flow Chart	Note
8	1.Windows 7/8 PC 2.GCK-003 3. USB to UART Converter 4.GCK-003 update program 5.UartISP_v3.0.0.exe	Update programs in FDT'S GCK-003 board or Users' MCU Board.	Remarks 3-3 GCK-003 Reference
9	1.SGM Plus Module 2.GCK-003	Verify if MCU works? No → A Yes	
10	1.SGM Plus 7' Module 2.GCK-003 3.PC Windows 7/8 4.FDT Arranger Plus	Verify if the profile from Arranger+ works fine? No → B Yes	
11		Finish	

Remarks 3-1 参考資料

Item	Path	File name	Note
Arranger Plus Installation Guide	CD:\ \Tools(software)\Arranger Plus\English\	Arranger_Plus_Installation_Guide.pdf	
Arranger Plus Simple Operation Guide	CD:\ \Tools(software)\Arranger Plus\English\	Arranger_Plus_Simple_Operation_Guide.pdf	この資料を最初にお読みください。
Arranger Plus User Manual	CD:\ \Tools(software)\Arranger Plus\English\	Arranger_Plus_User_Manual.pdf	

Note1. "xxx.AR2" is the file names created by Arranger+ for different GUI projects.

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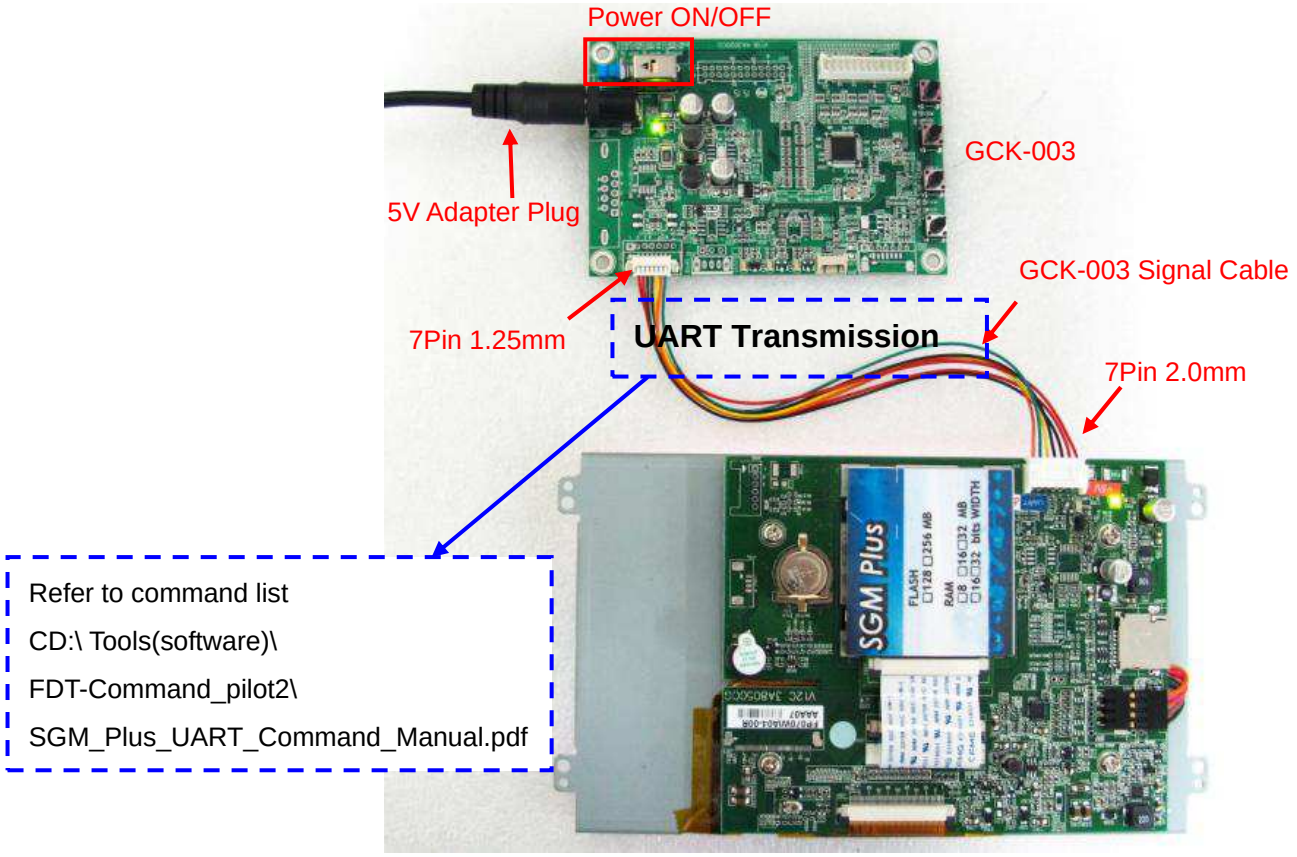
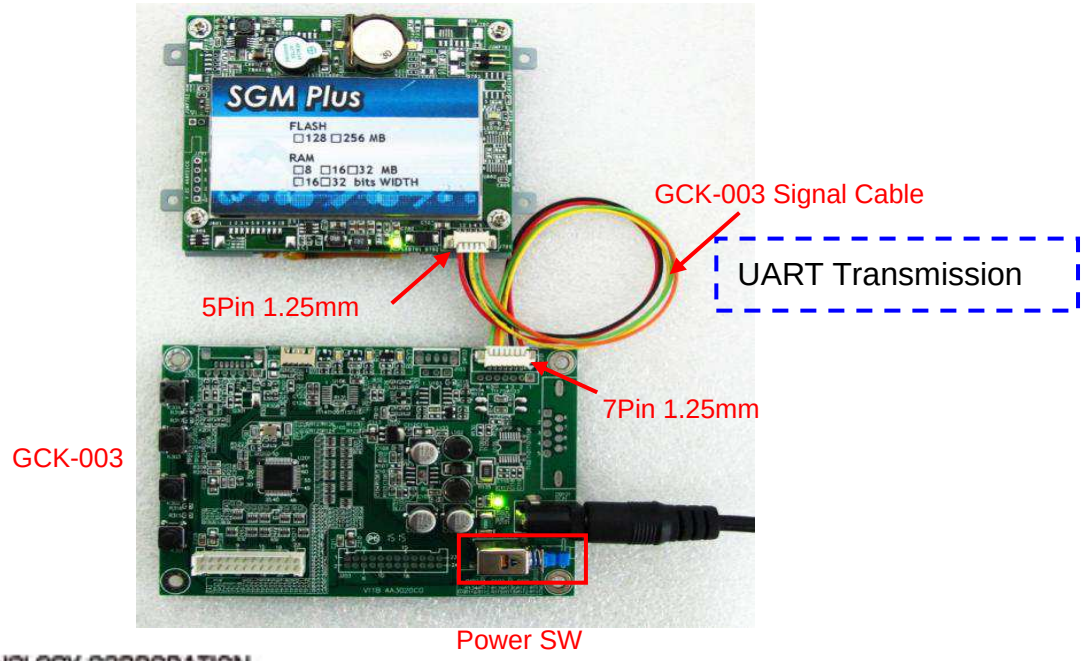
Remarks 3-2: GCK-003 と SGM PLUS の附属部品の接続方法

1. 7" SGM PLUS と GCK-003 との接続を例に説明します(4.3"/5.6"/10.4" SGM PLUS も同様)



2. Connection between3.5" SGM PLUS and GCK-003



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Remarks 3-3：GCK-003 Reference

Item	Path	File Name	Note
GCK-003 Programming Operation Guide.	CD:\Start Kit\GCK-003 Tools\GCK-003 FW	GCK-003_Programming_Operation_Guide.pdf	
Graphic Control Kit (GCK-003) Diagram	CD: \Start Kit\GCK-003 Tools\GCK-003 Circuit	GCK-003_Circuit_v1.2C.pdf	
MCU data of Graphic Control Kit (GCK-003)	CD:\ StartKit\ GCK-003_Tools\ WT61P9 Datasheet\	WT61P9.pdf	
GCK-003 Example Source codes	CD: \Start Kit\GCK-003 Tools\GCK-003 FW\Source Code\Demo	-	16 items.
Update Tools (Execution files)	CD: \Start Kit\GCK-003 Tools\UartISP	UartISP_v3.0.0.exe	

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第４章 基本的開発の資料および上級開発の資料

4.1 基本的開発の資料

Flowchart of Basic Development	Description	Document/ Tools	Path (CD:\)
Quick Access to SGM Plus	Quick access to SGM Plus.	Readme First.pdf	
	Hardware Installation	SGM_Plus_Quick_Start.pdf	
	Datasheet.	FP070WIA0x-00R.pdf	\Specifications\FP070WIA0x-00\
Installation and Operations of Arranger Plus.	Installation Guide to Arranger +.	Arranger_Plus_Installation_Guide.pdf	\Tools(software)\Arranger Plus\English\
	Execution File	Arrange_Plus_v1.1.0.exe	\Tools(software) \Arranger Plus\
			\Tools(software)\ \NET_Framework_4.5.2\
	Simple Operation Guide to Arranger +.	Arranger_Plus_Simple_Operation_Guide.pdf	\Tools(software)\Arranger Plus\English\
Installation and Operations of Command Pilot 2	Operation Guide to Command_Pilot2.	Command_Pilot2_Operation_Guide.pdf	\Tools(software)\ FDT-Command_pilot2\
	Execution File	FDT-Command_pilot2(2.6.10.1)	
	Installation Manual of USB_to_UART_Converter.	USB_to_UART_Converter_Installation_Guide.pdf	\Tools(software)\USB t o UART Converter Driver\
	USB_to_UART_Converter driver		
	SGM Plus UART Command Manual.	SGM_Plus_UART_Command_Manual.pdf	\Tools(software)\ FDT-Command_pilot2\
Instructions of DEMO examples in Start Kit	Instructions of DEMO examples in Start Kit	Start_Kit_Demo_User_Guide.pdf	\Start Kit\Documents\
Introduction and Manual of GCK-003.	Operation Guide to GCK-003.	GCK-003_Programming_Operation_Guide.pdf	\Start Kit \GCK-003 Tools\GCK-003 FW\
	Execution File (Firmware Update)	UartISP_v3.0.0.exe	\Start Kit \GCK-003 Tools\UartISP\
	Circuit Diagram	GCK-003_Circuit_v1.2C.pdf	\StartKit\ GCK-003_Tools\GCK-003 Circuit\

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4.2 上級開発の資料

Advanced Development	Description	Document/ Tools	Path (CD:\)
Advanced instructions of Arranger Plus and introduction to examples.	Details of Arranger+ 1.Introduction to environment. 2. Font/Art Work 3. Intro to elements 4. Macro Operations 5.Output & Update GUI Profile	Arranger_Plus_User_Manual.pdf	\Tools(software)\Arranger Plus\English\
	Arranger + demo examples	Module_Demo_800x480.AR2	\Start Kit\FP070WIA0x-00\Project\
	GUI Profile of demo examples.	SGM_PLUS.BIN	
	Advanced example guide in Arranger +	Arranger_Plus_Examples_Operation _Guide.pdf	\Tools(software)\Arranger Plus\English\
Command Manual and project examples in Command_Pilot2.	SGM Plus UART Command Manual	SGM_Plus_UART_Command_Manual.pdf	\Tools(software)\ FDT-Command_pilot2\
	Example codes of Hardware Control by UART	Example.txt	\Tools(software) \FDT-Command_pilot2\
	Built-in UART examples	Start_Kit_Demo_xxx.txt (15 items)	\Start Kit\UART Example\Demo\
MCU project examples and Example codes in GCK-003.	Example Code in GCK-003		\Start Kit\GCK-003 Tools \GCK-003 FW\Source Code\
	MCU compiler	KEIL C compiler	None
	MCU Data Sheet	MCU IC Data Sheet: WT61P9.pdf	\Start Kit\GCK-003 Tools \WT61P9 Datasheet\
Library	Default image library	Library	\Tools(software)\Picture_Library\

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Appendix A: Profile (SGM_Plus.BIN) の更新方法（7"SGMを参考に解説）

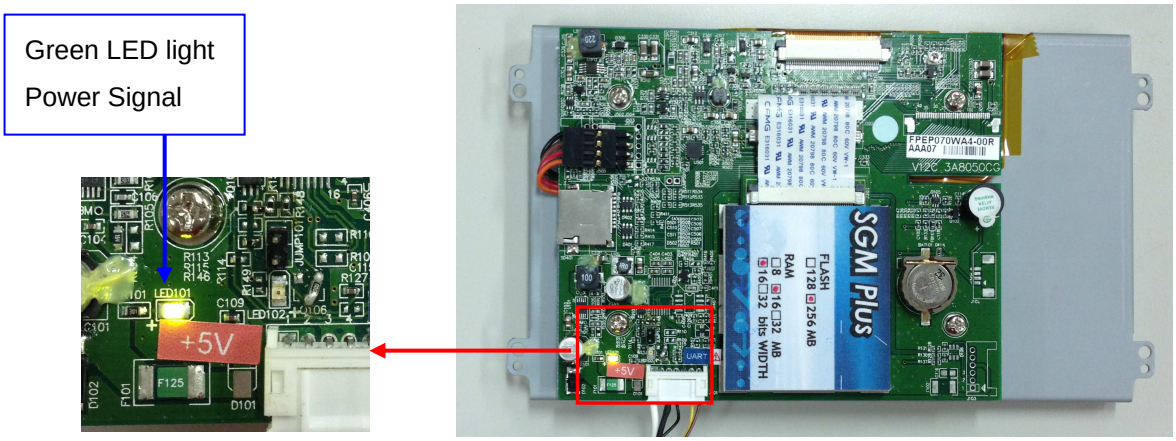
Step1：Restore SGM_Plus.BIN into Micro SD Card

Use PC to restore into SD card

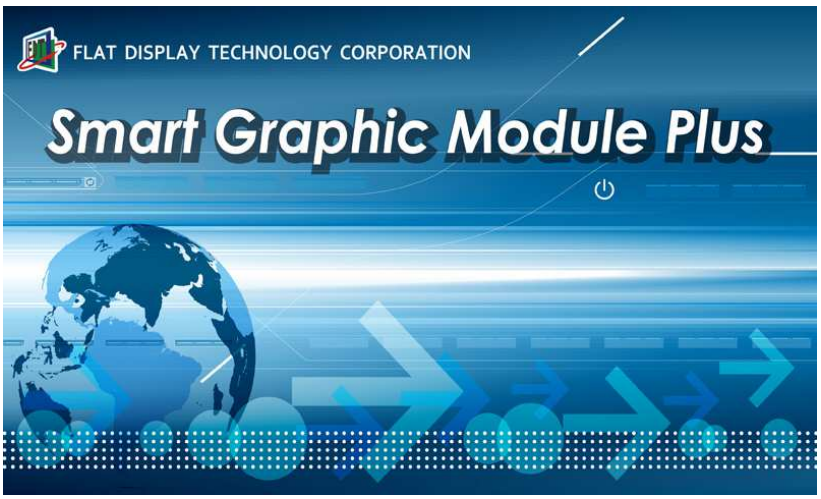
Note1: Turn on Arranger+ →Tools→Output→ Export GUI profile "SGM_Plus.BIN."

Step2：Update GUI Profile

A. Green LED light is on when module is powered up.



Module が正常に起動したことを確認してください。起動画面は次のとおりです。



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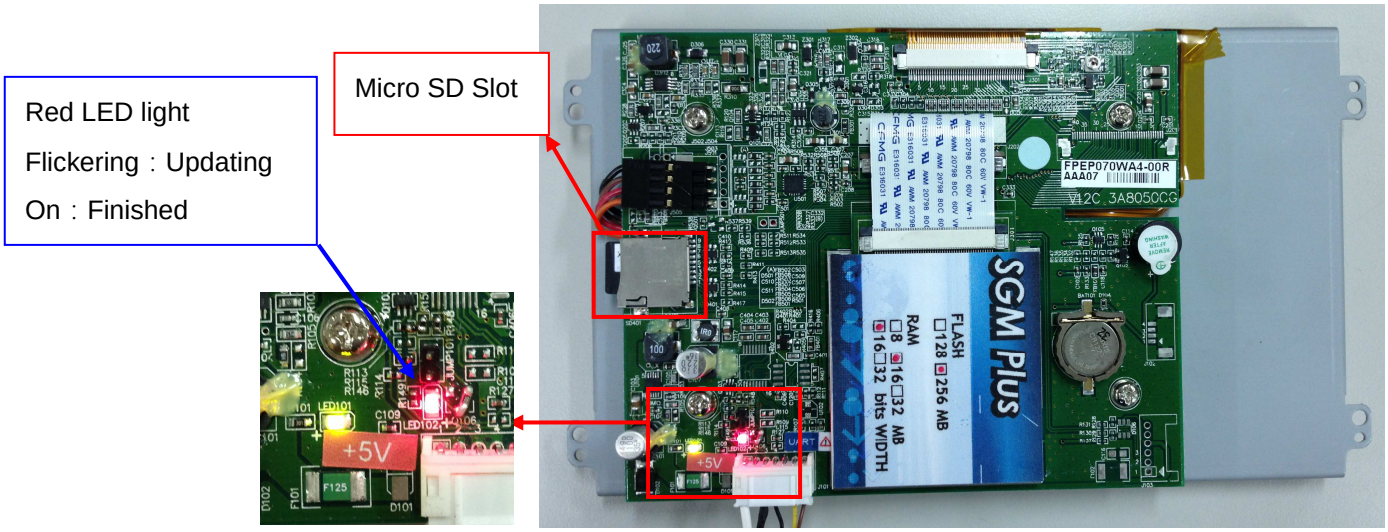
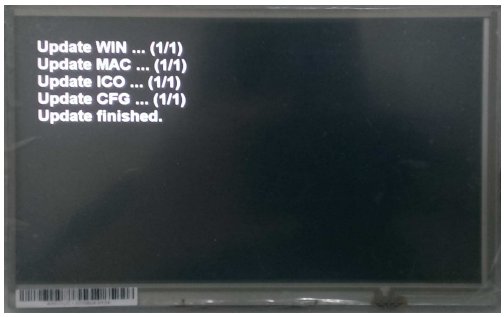
C. Micro SD Card を SD slot に差すとすぐに update が始まります。



Step3：update が完了すると ”Update finished” と表示されます。



Step4：Micro SD Card を取り出し再度 SGM+ に電源を入れます。GUI profile が画面に表示されます。 下図は画面の例です。

Note: Micro SD Card の取り出しを忘れた場合は SD card を再挿入した時や module に電源を入れた時に GUI profile の update が強制的に始まります。

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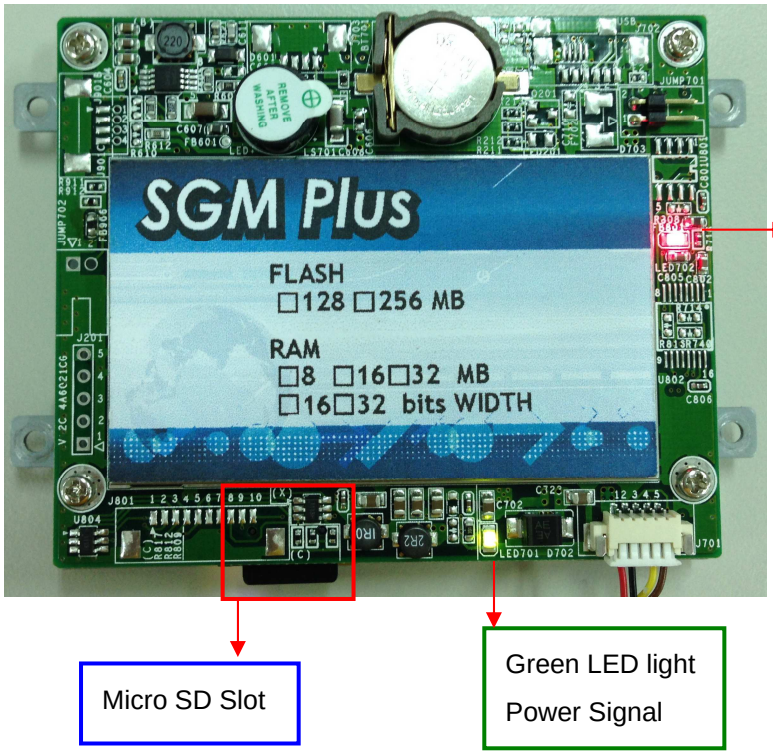
Other sizes

P/N	Description
FPEP035QA4-00R FP035QIA14-00R	

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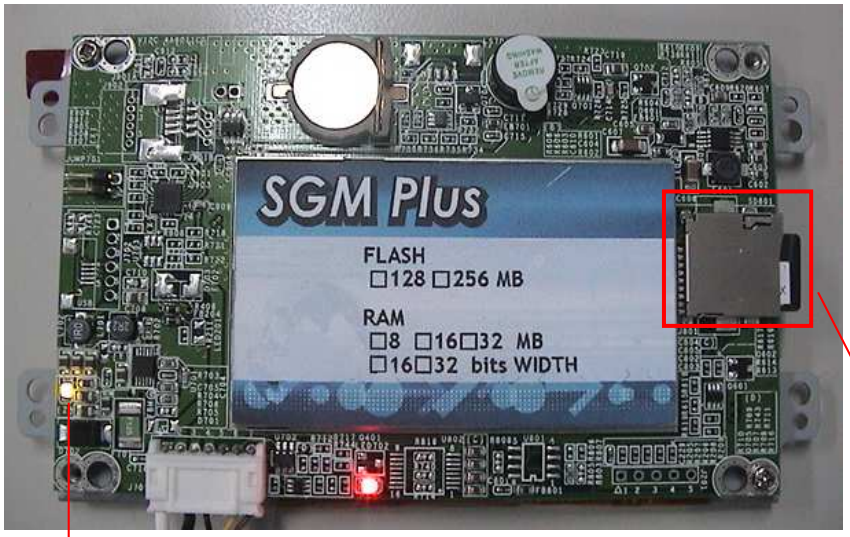
FPEP043YA4-00R FP043YIA14-00R	

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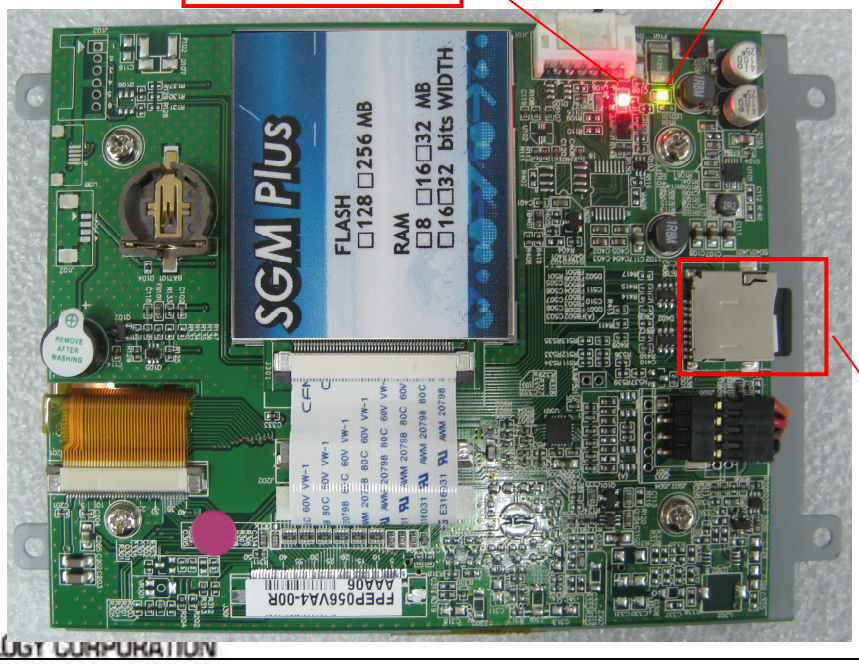
PEP056VA4-00R FP056VIA04-00R	

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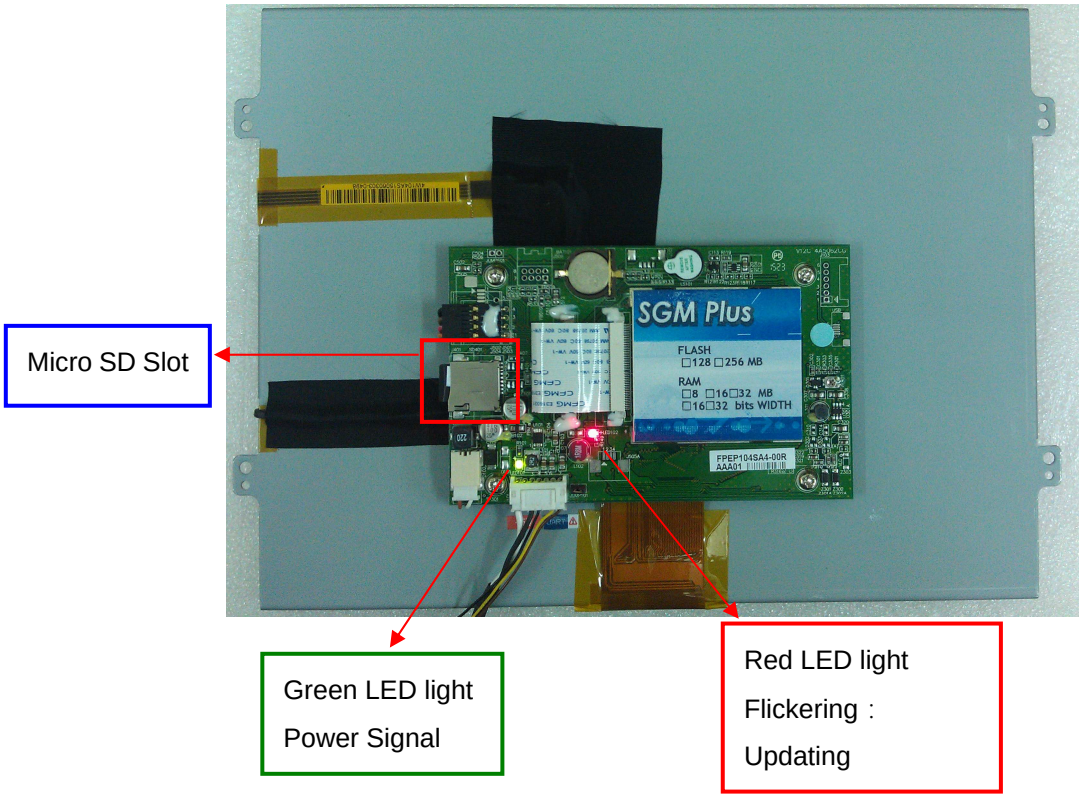
FPEP104SA4-00R FP104SIA24-00R	

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第 5 章　改訂履歷

5.1 改訂記録

NO.	Date	Description	Page	Note
1.0	July 13, 2015	. First draft	19	
1.1	August 12, 2015	. Additional parts	5~6	
1.2	September 16,2015	. Update1.4 Index in CD of SGM Plus	6	
1.3	October 19,2015	. Update1.4 Index in CD of SGM Plus	6	

5.2 內部履歷

NO.	Date	Description	Page	Note
0.0	May 4, 2015	. First draft (Tentative)	16	
0.0	May 21, 2015	. 1.3 Packaging List2 光碟料號	4	
		. Step4：修改備註	13	
0.0	June 15,2015	. 1.2 新增 5.6&10.4 模組及學習包料號	2	
0.0	July 10,2015	. 1.2 新增 3.5&4.3 模組及學習包料號	2	
		. 1.3 新增 3.5&4.3 配件	3~4	
		. 加入 3.5 與 GCK 連接說明圖	12	
		. 說明 3-2:如何更新配置圖庫檔加備註娜到附錄 A	16~17	
		. 加入 3.5、4.3、5.6、10.4 圖示說明	18~19	
1.1	August 12,2015	. Additional parts	5~6	
		. UART 傳輸改為 UART Transmission	13	
1.2	September 16,2015	. Update1.4 Index in CD of SGM Plus	6	
1.3	October 19,2015	. Update1.4 Index in CD of SGM Plus (增加 Demo 專案路徑)	6	

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