

Instruction Manual for GP2X Interface Board

[Caution]

- You need to advise users that connecting method of Interface board to GP2X of 1st and 2nd batch is a little different from that of 3rd batch GP2X (to be shipped from mid-May)
- This version is mainly for developers or programmers so that we did not include warnings and cautions typical to general electronic products.
- AC adaptors mentioned in this manual should be the ones provided by Gamepark Holdings.

1. How to tell new GP2X from old GP2X :

Check the sticker above battery cover on back plastic casing



→ old GP2X



→ New Gp2X

2. Cautions when connecting GP2X to Interface Board

Power of USB device	Old GP2X	New GP2X
Case 1 : Connecting low-power devices such as Joystick to USB port of the board	Connect Adaptors to both GP2X and Board, or put rechargeable batteries into GP2X instead of Adaptor. If adaptor is not connected to Interface board, GP2X will not start	You may connect Adaptor to GP2X only or Interface Board only.
Case 2 - Connecting hi-power devices such as HDD to USB port	Connect Adaptors to both GP2X and Board. If adaptor is not connected to the Board, GP2X will not start	Connect Adaptors to both GP2X and Board

3. Caution when connecting HDD to Interface board

- 1) Though Interface board supports 4 USB hosting ports, High-power device such as HDD shall be connected to only one USB port. If 2 or more HDD are connected HDD or Interface Board can be damaged due to shortage of power.
- 2) HDD should be formatted in FAT32 file system in advance.

4. Caution: Sequential procedure of connecting GP2X and Interface board

If you do not follow the procedure below, you may fail to initialize the system and the system may not start.

- 1) Make sure the power of GP2X to be turned off.
- 2) Use 24P EXT cable to connect GP2X and Interface Board
- 3) Connect AC adaptor to Interface board and/or GP2X (Check lighting of power LED of Interface boardUSB)
- 4) Turn on GP2X.

5. Cables to connect to Interface Board

- 1) 25P Parallel Cable : MALE connectors on both ends
- 2) 9P Serial Cable : One MALE, the other FEMALE
- 3) S-Video Cable : One MALE, the other FEMALE

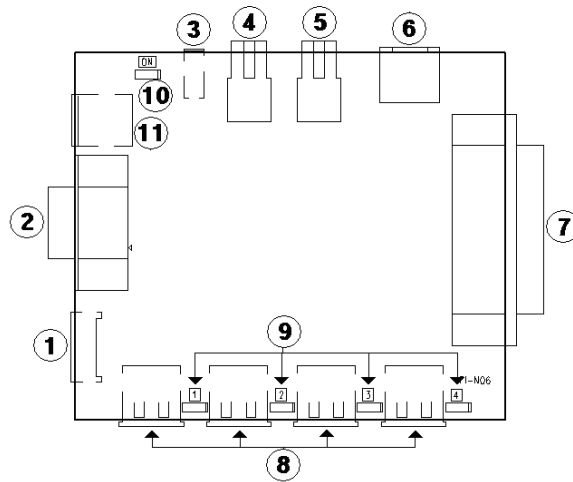
6. Cautions when connecting JOYSTICK to Interface Board

If you connected Joystick to Interface board with GP2X is turned on, you should reboot power of GP2X in order to operate JOYSTICK.

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1. Layout of the Board



① EXT port : Connects to GP2X' EXT Port.

② RS232 Port : RS232 port for developers. Monitors operating status of GP2X.

③ DC 3V Adaptor Jack : Connects to Adaptor of regulated voltage of DC3V

● Nota Bene

1) Whenever you connect GP2X to Interface board, be sure to connect external adaptor to GP2X.

2) In case of 1st and second batch GP2X, you should always connect external regulated DC3V adaptor to Interface board or put 2AA rechargeable batteries in GP2X. In case of 3rd batch GP2X, you need to connect external adaptors only when you use high-power devices like HDD.

* So you need to inform your customers of the version of GP2X.

④ L-Sound Jack(RCA Jack) : Left Audio-out port to TV or Monitor

⑤ R-Sound Jack(RCA Jack) : Right Audio-out port to TV or Monitor

⑥ S-Video Connector : Video-out connector to TV or Monitor

⑦ JTAG Port : JTAG port for developer. Recovers booting file.

⑧ USB Host x 4 port : Connects to USB compatible devices like game controller, HDD, keyboard etc

⑨ USB HOST operation lamp : If USB HOST PORT operates normally, relevant lamp will be lighted.

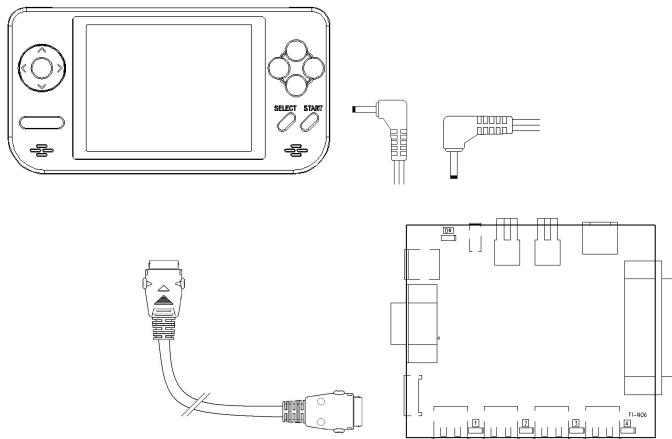
⑩ Power warning lamp : Lighted when power is ON.

⑪ Not to be used.

2. How to start

(1) Connecting to GP2X

- 1) With GP2X turned off, connect regulated DC3.3V AC adaptor to GP2X.
- 2) Connect EXT ports of GP2X and Interface Board with Serial cable.
- 3) Turn GP2X ON.



● Caution:

- In case of 1st and second batch GP2X, you should always connect external regulated DC3.3V adaptor to Interface board.
- Whenever connecting external regulated DC3.3V adaptor to Interface board, be sure to turn off GP2X. In case you turn on Interface board after booting GP2X, Interface board will not operate normally due to improper initialization.

(2) Connecting to external video device

- 1) Connect S-Video cable to ⑥ S-Video connector of Interface board.
- 2) Connect S-Video cable to S-Video connector of external video device (Monitor, TV etc).
- 3) Turn external video device into S-Video mode.
- 4) Go to Menu of GP2x and select TV-OUT function. (Refer GP2x manual)

(3) Connecting to external Audio device

- 1) Connect ④, ⑤ (L Sound Jack and R Sound Jack) of Interface board to external device by matching colors of connectors.
- 2) Volume can be adjusted by volume button of either GP2X or external device.

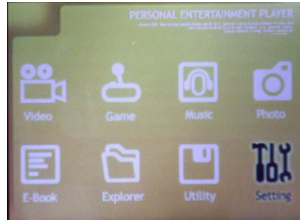
(4) Connecting to USB Host port

- 1) Upgrade GP2X firmware version to 2.0.0. (in case of old firm ware)
 - You can download the firmware here : <http://www.gp2x.co.kr>

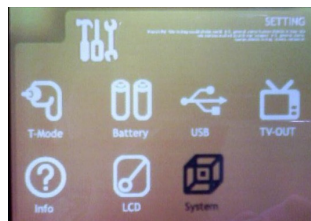
- Refer GP2X manual for Upgrading method.

2) Selecting Menu of GP2X

2)-1. Go to Menu of GP2X and select “Setting”.



2)-2. And then Select “System” .



2)-3. After selecting “Advanced” as “ON”, set “USB HOST” as “ON” or “ALWAYS ON” .



→Setting as “ON”: If power is off, the value of setting will not be saved.

→ Setting as “ALWAYS ON”: Even if power is off, the value of setting shall be saved.

2)-4. When using USB devices like Joystick, key board or HDD etc, set “Storage” and “Human Interface” as “ON”, and then connect devices.

3) Make sure that lamp of relevant port is lighted green.

* Caution

- Only one HDD can be connected to Interface board. If two or more HDD are connected to the board, HDD can be damaged due to short supply of power.
- External adaptor of regulated DC 3V should always be connected to the board.

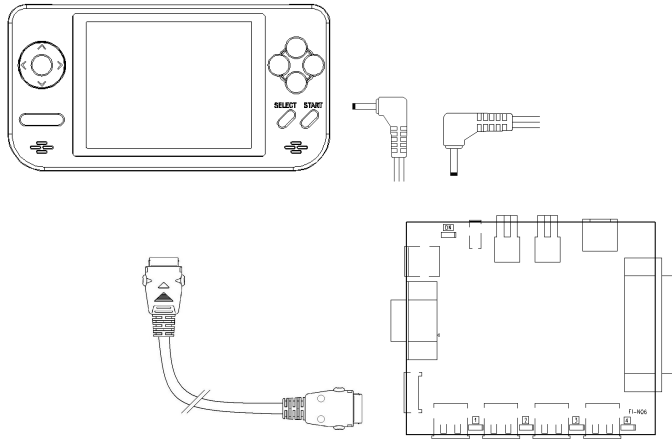
(5) Using JTAG port (Restoration of BIOS field of GP2X)

1) Copy the latest boot image file, gp2xboot.img, on SD card. And then insert

the SD card into Gp2x.

- Boot image file can be downloaded here : <http://www.gp2x.co.kr>

- 2) Connect JTAG port of Interface board to 25P parallel cable port of PC.



- 3) Let PC in state of DOS Prompt and execute Gp2xrecovery.exe in JTAG Folder (For example)

```
C:\WINDOWS\system32\cmd.exe
2006-03-29 오후 07:30 <DIR> .
2006-03-29 오후 07:30 <DIR> ..
2000-05-13 오후 08:55          2,200 GIUEIO.SYS
2006-03-23 오후 04:10        114,688 GP2XRecovery.exe
2000-05-13 오후 12:48        161,124 instdrv.exe
                3개 파일          278,012 바이트
                2개 디렉터리 31,087,996,928 바이트 남음

E:\W2.Project\W1.gp2x\W3.gp2x 게임다운로드\JTAG>GP2XRecovery.exe
```

- 4) After being executed as below and SUCCESS appeared, turn off power.

```
C:\WINDOWS\system32\cmd.exe
System HALTED in 32bit State
R0 is 0x00000000
PC is 0xFE004334
3> ID Code Check...
Device ID..0x10920F0F
4> Watch-Dog Disable...
registers read
Poke 0xC0000A14. 0x00000000. 0x00000001
5> Disable Interrupt...
Poke 0xC0000000. 0xFFFFFFFF. 0x00000001
6> Downloading Recovery Image...(<SDRAM default base address: 0x3F00000>)
Write Block 0x03F00000, length 0x00000400
Write Block 0x03F01000, length 0x00000400
Write Block 0x03F02000, length 0x00000400
Write Block 0x03F03000, length 0x00000400
Write Block 0x03F04000, length 0x00000400
Write Block 0x03F05000, length 0x00000400
Write Block 0x03F06000, length 0x00000400
Write Block 0x03F07000, length 0x00000400
Write Block 0x03F08000, length 0x00000400
Write Block 0x03F09000, length 0x00000400
Write Block 0x03F0A000, length 0x00000400
Write Block 0x03F0B000, length 0x00000400
Write Block 0x03F0C000, length 0x00000400
Write Block 0x03F0D000, length 0x00000400
Write Block 0x03F0E000, length 0x00000400
Write Block 0x03F0F000, length 0x00000400
Write Block 0x03F10000, length 0x00000400
Write Block 0x03F11000, length 0x00000400
Write Block 0x03F12000, length 0x00000400
Write Block 0x03F13000, length 0x00000400
Write Block 0x03F14000, length 0x00000400
Write Block 0x03F15000, length 0x00000400
7> Please Wait...
Pausing for 0x00000003 seconds
8> Run Image...
registers written
Restarting at 0x03F00000
Done
9> Halt Device...
Requesting HALT..
System HALTED in 32bit State
R0 is 0x00000000
PC is 0x0568088C
10> Rerun Image...
Restarting at 0x03F00000
Done
11> Terminate...
ControlService SUCCESS
DeleteService SUCCESS
E:\W2.Project\W1.jp2x\W3.jp2x 게임다운로드\WJTAG>
```

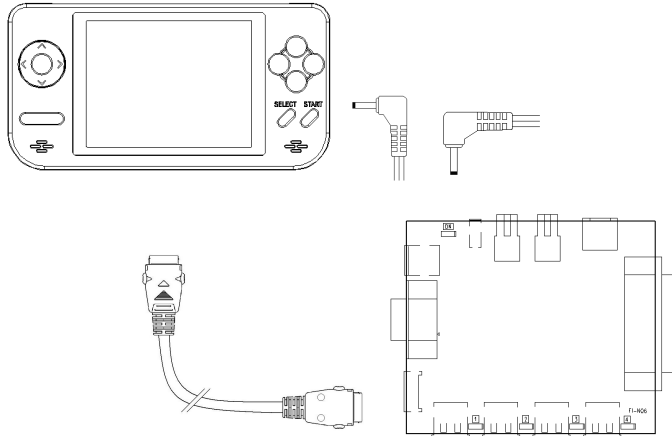
- 5) With SELECT button and START button of GP2X pressed at the same time, turn on power.

* Caution : Buttons should be pressed until Upgrade appears on LCD screen.

- 6) When completed Upgrade and main menu screen appears, reboot GP2x.

(6) Using RS232

- 1) Connect RS232 9Pin serial cable.



* Shell mode in initial stage being sent to PC

```
■U-Boot 1.0.0 (Feb 24 2006 - 14:37:41)

■U-Boot code: 03F00000 -> 03F6A6B8 BSS: -> 03FA30E4
■DRAM Configuration:
■Bank #0: 00100000 63 MB
■lhj size = %
■Flash: 0 kB
■NAND:Probing at 0x9c000000
■Flash chip found:
■ Manufacturer ID: 0xEC, Chip ID: 0x76 (Samsung K9F1208 64Mb)
■1 Flash chips found. Total nand_chip size: 64 MB
■Get Environment from NAND offset 0x70000 ...
■*** Warning - bad CRC, using default environment

■In: serial
■Out: serial
■Err: serial

■SD Found : SD Frequency is 2MHz
■(with MBR)

■UPDATE ...
■BOOT UPDATE -----
■reading gp2xboot.img

■** Unable to read "gp2xboot.img" from mmc 0:1 **
■1 : g_filesize 0
■gp2xboot.img not found
■KERNEL UPDATE -----
■reading gp2xkernel.img

■** Unable to read "gp2xkernel.img" from mmc 0:1 **
■2 : g_filesize 0
■gp2xkernel.img not found
```



```

■Linux video capture interface: v1.00
■CX25874 ID = c3
■MMC/SD Slot initialized
■NetWinder Floating Point Emulator V0.97 (double precision)
■FAT: bogus logical sector size 65535
■FAT: bogus logical sector size 65535
■MMC/SD Card Detected
■Partition check:
■mmcblk0: p1
■Register SD: 965MB
■jffs2_scan_eraseblock(): Node at 0x00981bfc {0x1985, 0xe001, 0xe0021985} has i
■jffs2_scan_eraseblock(): Node at 0x00e82bf8 {0x1985, 0xe002, 0x0000013f} has i
■jffs2_scan_eraseblock(): Magic bitmask 0x1985 not found at 0x00e82bfc: 0x013f
■Inode #27 was a directory with children - removing those too...
■UFS: Mounted root (jffs2 filesystem).
■Mounted devfs on /dev
■Freeing init memory: 280K
■INIT: version 2.84 booting
Started device management daemon v1.3.25 for /dev
Mount proc and devpts filesystem
Expand RAM file system image
<4>mtd->read(0x985 bytes from 0x4682b0) returned ECC error
■INIT: Entering runlevel: 3
Last login: Thu Jan 1 00:00:21 on ttyS0
-t and -C not supported
MSDOS FS: IO charset utf8
■rm: cannot remove `/mnt/sd/gp2xboot.img': No such file or directory
rm: cannot remove `/mnt/sd/gp2xkernel.img': No such file or directory
rm: cannot remove `/mnt/sd/gp2xfile.img': No such file or directory
SDL_SYS_JoystickInit
gLOAD_LCD_TIMING:t disp:5
■dGET_LCD_TIMING: spClkDiv:8
■SET_LCD_TIMING(8) : 1
Apply LCD Timing■f
clk 100MHZ
■EXIT
root@Linux gp2x]$

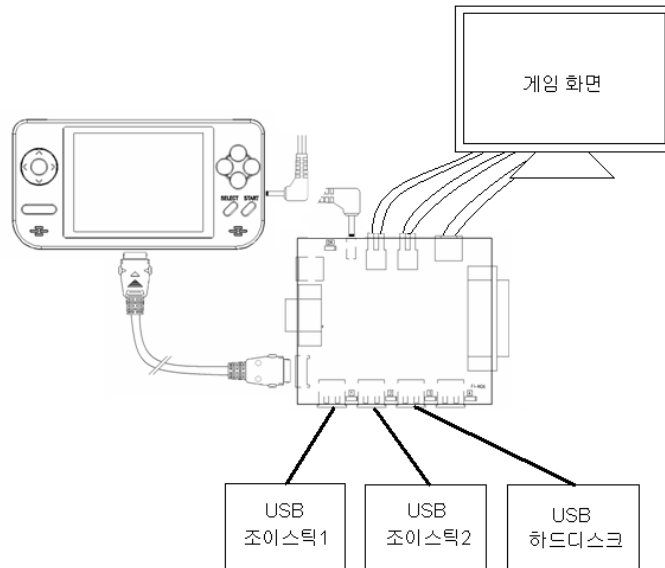
```

- Pressing 'Ctrl+C' after completed booting will display Prompt status
- Setting of serial communication
 - Bit/Sec : 115200 bps
 - Data Bit : 8bit
 - Parity : None
 - Stop Bit : 1bit
 - Flow control : None.

3. How to enjoy Interface Board

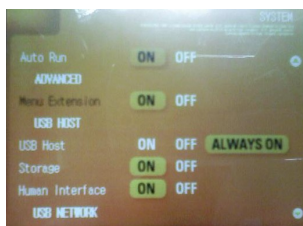
ex) Bi-party gaming by connecting external video device and USB HDD

1) Connect as follows:



→ When USB port lamps of Interface board are not lighted green:

- Check if GP2X and Interface USB board is connected to external adaptor (DC3V/2A).
- Check if Menu of GP2X is set as follows:

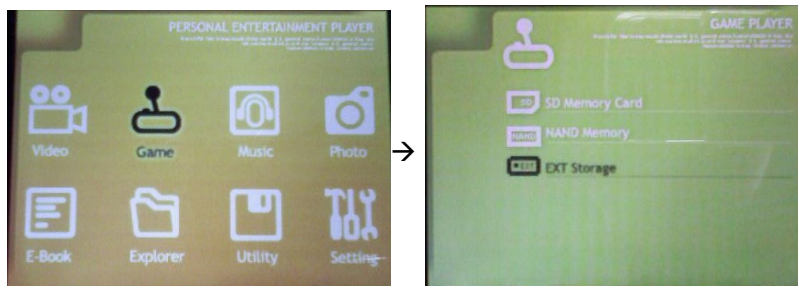


“USB HOST” – “ON” or “ALWAYS ON”

“Storage” – “ON”

“Human Interface” – “ON”

2) Select “Game” on Menu of GP2X → “EXT Storage” on Menu of GP2X.



3) Execute Game.

4) Caution:

- S-Video cable, Sound R/L cable, Joystick and HDD are not included in basic package.
- When formatting HDD, File system should be FAT32.
- Joystick can be used only when the game supports Joystick.

Reference:

1. Serial cable- RS232 Port



2. Parallel FX cable - JTAG Port

