

Verifying the Version

Use the procedure described below to verify the version of the application program. If the version of the boot program is also required, refer to **Test Mode** (p. 17).

1. Press **MENU**.
The **MENU** screen appears.
2. Press **CURSOR** ◀ or ▶ to select **VERSION INFO**, then press **ENTER**.
The **VERSION INFO** screen appears.

Data Backup and Restore Operations

Formatting a USB Memory Device

1. Insert a USB memory device into the **USB MEMORY** connector.
2. Press **MENU**.
The **MENU** screen appears.
3. Press **CURSOR** ◀ or ▶ to select **UTILITY**, then press **ENTER**.
The **UTILITY** screen appears.
4. Press **CURSOR** ◀ or ▶ to select **USB MEM FORMAT**, then press **ENTER**.
Format USB Mem? is displayed.
5. To execute formatting, press **ENTER**. To cancel it, press **EXIT**.
6. When formatting has finished, detach the USB memory device.

Data Backup Operations

Items Required

- USB memory device (recommended: M-UF2G)

Procedure

1. Format the USB memory device (as described earlier).
2. Press **MENU**.
The **MENU** screen appears.
3. Press **CURSOR** ◀ or ▶ to select **UTILITY**, then press **ENTER**.
The **UTILITY** screen appears.
4. Press **CURSOR** ◀ or ▶ to select **BACKUP**, then press **ENTER**.
NAME [ENT] flashes.
5. Press **ENTER**.
Backup is displayed.
6. To execute the backup operation, press **ENTER**. To cancel it, press **EXIT**.
When the backup finishes, the display returns to the original screen.

Data Restore Operations

Procedure

1. Insert the USB memory device containing the backed-up data into the **USB MEMORY** connector.
2. Press **MENU**.
The **MENU** screen appears.
3. Press **CURSOR** ◀ or ▶ to select **UTILITY**, then press **ENTER**.
The **UTILITY** screen appears.
4. Press **CURSOR** ◀ or ▶ to select **RESTORE**, then press **ENTER**.
5. Press **ENTER** again.
RESTORE: [ENT] flashes.
6. To execute the restore operation, press **ENTER**. To cancel it, press **EXIT**.
When the restore operation finishes, **Completed. Turn off power.** is displayed.
7. Detach the USB memory device and reset the power.

Performing a Factory Reset

1. Press **MENU**.
The **MENU** screen appears.
2. Press **CURSOR** ◀ or ▶ to select **UTILITY**, then press **ENTER**.
The **UTILITY** screen appears.
3. Press **CURSOR** ◀ or ▶ to select **FACTORY RESET**, then press **ENTER**.
Factory Reset is displayed.
4. To execute the factory reset, press **ENTER**. To cancel it, press **EXIT**.
When the factory reset has finished, **Completed. Turn off power.** is displayed.
5. Reset the power.

Updating the System

Items Required

- USB memory device (recommended: M-UF2G)
- Update program (obtained via Service Net)

Procedure

1. Format the USB memory device. (Refer to **Formatting a USB Memory Device** (p. 16).)
2. Copy the update program (**xps10_up.bin**) to the root directory of the USB memory device just described.
3. While the power to the unit is switched off, insert the USB memory device just described into the **USB MEMORY** connector.
4. Hold down **ENTER** and switch on the power.
The update starts automatically.

** Never switch off the power or detach the USB memory device while the update is in progress. Doing so may cause malfunction.*

When **finished.** appears, the update has finished.
5. Detach the USB memory device and reset the power.
6. Verify that the version has been updated. (Refer to **Verifying the Version** (p. 16).)

Test Mode

Items Required

- Computer (No dedicated driver is required.)
- USB cable
- USB memory device (recommended: M-UF1G/2G)
- Audio cable
- Expression pedal (EV-5)
- Amp-equipped monitor speakers
- Oscilloscope
- Noise Meter

* Use a two-prong power cord for the noise meter.

Entering the Test Mode

1. Connect the USB memory device to the **USB MEMORY** connector.
2. Using the USB cable, connect the **USB COMPUTER** connector and the computer.
3. Hold down **FAVORITE/NUMERIC 1, 3** and **6** and switch on the power.

Quitting the Test Mode

Switch off the power.

Skipping Test Items

SHIFT + CURSOR ► : This forces execution to advance to the next test item.

SHIFT + CURSOR ◀ : This forces execution to return to the previous test item.

SHIFT + MENU: **TEST MENU** is displayed.

Use **VALUE -** or **+** to select the test item, then press **ENTER** to jump to the item.

* Testing for some items cannot be accomplished correctly unless testing is performed in sequence, starting at **1. VERSION** (p. 17).

* Depending on the test item currently being executed, pressing **SHIFT + MENU** might not display the **TEST MENU**.

Test Items

1. **VERSION** (p. 17)
2. **DEVICE** (p. 17)
3. **SW/LED1** (p. 18)
4. **SW2** (p. 18)
5. **LCD** (p. 18)
6. **A/D** (p. 18)
7. **OUTPUT** (p. 19)
8. **PHONES** (p. 19)
9. **MUTE** (p. 19)
10. **KEYBOARD** (p. 19)
11. **NOISE** (p. 19)
12. **WAVE ROM** (p. 19)
13. **FACTORY RST** (p. 19)
14. **ERP CHECK** (p. 19)

1. VERSION

This verifies the version of the program.

```
- |-----| -
| Appli:1.01(00**) |
| 14/02/11 18:43 |
- |-----| -
```

The version of the program is displayed on the LCD screen and the LEDs other than **EXIT**, **CURSOR**, **◀** and **►** light up.

1. After verifying the version, press **VALUE +**. The boot version is displayed.

```
- |-----| -
| Boot:1.00(00**) |
| 14/02/11 18:43 |
- |-----| -
```

2. Verify the boot version.
3. Verify that the LEDs shown in the figure are lighted up red.



4. Press **CURSOR ►** to advance to the next test item.

* Because the adjustment of the pitch bender starts at the same time when the next test item is enabled, never touch the pitch bender.

2. DEVICE

* Before entering this test item, insert the USB memory device into the **USB MEMORY** connector at the unit and connect the unit and the computer using the USB cable.

This automatically tests various devices.

```
- |-----| -
| 1. FLASH: -- |
| 2. SDRAM1: -- |
- |-----| -
```

1. Flash
2. SDRAM1
3. SDRAM2
4. FX-RAM
5. WROM
6. USB H
7. USB F
8. SUBCPU
9. KEYSKAN

If the test result is **OK**, **OK** is displayed for the corresponding device.

If the test result is **NG** (not OK), **NG** is displayed for the corresponding device.

* The check of the entire wave ROM area does not yield an OK immediately. It only starts the full-area check in the background.

If the results of **OK** have been obtained for all tests other than **5. WROM**, a screen like the one shown below is displayed on the LCD.

```
-|-----|
| Remove the USB |
| Memory & Cable. |
-|-----|
```

Detach the USB memory device and the USB cable.

* Detection of the removal of the USB memory device and USB cable might take a short while.

Execution automatically advances to the next test item.

3. SW/LED1

This verifies the operation of LED-equipped switches.

```
-|-----|
| 1. POWER |
| 1/29 |
-|-----|
```

Follow the on-screen indications and successively press each button whose LED lights up.

When all buttons with LED have been pressed, execution automatically advances to the next test item.

4. SW2

This verifies the operation of switches that have no LEDs.

```
-|-----|
| 1. EXIT |
| 1/3 |
-|-----|
```

Follow the on-screen indications and successively press the buttons. When all have been pressed, execution automatically advances to the next test item.

5. LCD

This verifies the on-screen indications.

```
-|-----|
| Press [ENTER] |
| LCD Check |
-|-----|
```

1. Press **ENTER**.
The entire screen goes black.
2. Press **ENTER**.
The entire screen goes white.
3. Press **ENTER**.
A screen like the one shown below is displayed.

```
-|-----|
| Press [ENTER] |
| Contrast Check |
-|-----|
```

4. Press **ENTER**.
Contrast is maximized.
5. Press **ENTER**.
Contrast is minimized.

6. Press **ENTER**.
A screen like the one shown below is displayed.

```
-|-----|
| Press [>] . |
| |
-|-----|
```

7. Press **CURSOR** ► to advance to the next test item.

6. A/D

This verifies the operation of the pitch bender, pedal and control knobs.

```
-|-----|
| BEND--- MOD--- |
| HOLD--- |
-|-----|
```

1. BEND: BENDER
2. MOD: MODULATION
3. HOLD: PEDAL
4. VOL1: VOLUME
5. SLD1: CUT OFF
6. SLD: RESONANCE
7. SLD3: ATTACK
8. SLD4: RELEASE
9. SLD5: CHORUS
10. SLD6: REVERB
11. SLD7: LOWER/2
12. SLD8: UPPER/1
13. SLD9: AUDIO PAD

Pitch Bender

1. Move the pitch bender to the left edge, and verify that a value of **0** is displayed for **BEND**.
2. Release the control near the center, and verify that **64** is displayed.
3. Move to the right edge, and verify that **127** is displayed.
If no problems are found, **OK** is displayed.
4. Move the modulation lever (pitch bender) to the front and back and verify that the value of **MOD** changes from **0** to **127**.
If no problems are found, **OK** is displayed.

Pedal

5. Connect the expression pedal to the **PEDAL** jack.
6. Depress the expression pedal and verify that the value of **HOLD** changes from **0** to **127**.
If no problems are found, **OK** is displayed.

Control knobs

7. Operate each knob indicated on-screen from minimum to maximum, and verify that the corresponding value changes from **0** to **127**.
If no problems are found, **OK** is displayed.
8. Check the other control knobs in the same manner.
When all results are **OK**, a screen like the one shown below is displayed on the LCD.

```
-|-----|
| Remove Pedal. |
| |
-|-----|
```

9. Detach the expression pedal.
Execution automatically advances to the next test item.

7. OUTPUT

This tests the audio signal (L/R) output from the **OUTPUT** jack.

```
-|-----| -
| OUTPUT   : SINE |
| Press[>] |
-|-----| -
```

1. Connect the oscilloscope to the **OUTPUT L/MONO** and **R** jacks and display the waveform.
2. Verify that the following signals are output.
OUTPUT L: 1-kHz \pm 50 Hz sine wave at 6.0 \pm 2.0 Vpp
OUTPUT R: 2-kHz \pm 50 Hz sine wave at 6.0 \pm 2.0 Vpp
3. Press **CURSOR** ► to advance to the next test item.

8. PHONES

This tests the audio signal (L/R) output from the **PHONES** jack.

```
-|-----| -
| Phones   : SINE |
| Press[>] |
-|-----| -
```

1. Connect the oscilloscope to the **PHONES** jack and display the waveform.
2. Verify that the following signals are output.
PHONES L: 1-kHz \pm 50 Hz sine wave at 6.0 \pm 2.0 Vpp
PHONES R: 2-kHz \pm 50 Hz sine wave at 6.0 \pm 2.0 Vpp
3. Press **CURSOR** ► to advance to the next test item.

9. MUTE

This verifies the operation of the MUTE.

```
-|-----| -
| MUTE=OFF: [ENTER] |
|                   |
-|-----| -
```

1. Connect the amp-equipped monitor speakers to the **OUTPUT** jacks.
Demo song is played back.
2. Verify that audio is muted while **ENTER** is depressed.
3. Verify that the mute is canceled when **ENTER** is released.
4. Press **CURSOR** ► to advance to the next test item.

10. KEYBOARD

This verifies the operation of the keyboard.

```
-|-----| -
| 1/2 Pno |
|         |
-|-----| -
```

1. Play all keys, and verify that notes are produced with piano sound. Also verify that the volume level changes according to the velocity of key fingering.
2. Press **VALUE +**.

```
-|-----| -
| 2/2 Org |
|         |
-|-----| -
```

3. Play all keys, and verify that notes are produced with organ sound.

4. Press **CURSOR** ► to advance to the next test item.

11. NOISE

This performs testing for residual noise.

```
-|-----| -
| Check NoiseLevel |
| Press[>] |
-|-----| -
```

1. Turn the **VOLUME** knob to maximum.
2. Connect the noise meter to the **OUTPUT L/MONO** and **R** jacks and verify that noise levels are at the following values.
OUTPUT L/MONO: -80 dBm or lower (DIN-audio)
OUTPUT R: -80 dBm or lower (DIN-audio)
3. Press **CURSOR** ► to advance to the next test item.

12. WAVE ROM

This verifies the results of the check of the entire wave ROM area.

```
-|-----| -
| Wave ROM:OK |
| Press[>] |
-|-----| -
```

1. Verify that **Wave ROM:OK** is displayed.
If **Busy** is displayed, wait for **OK** to be displayed.
* This item is started after **2. DEVICE** (p. 17) has been executed. If **2. DEVICE** (p. 17) was not selected, the test starts at the time that this **12. WAVE ROM** (p. 19) is selected.
2. Press **CURSOR** ► to advance to the next test item.

13. FACTORY RST

This executes Factory Reset.

```
-|-----| -
| Press [ENTER] |
| Factory Reset |
-|-----| -
```

Press **ENTER**.

A factory reset is executed.

When the factory reset has finished, execution automatically advances to the next test item.

14. ERP CHECK

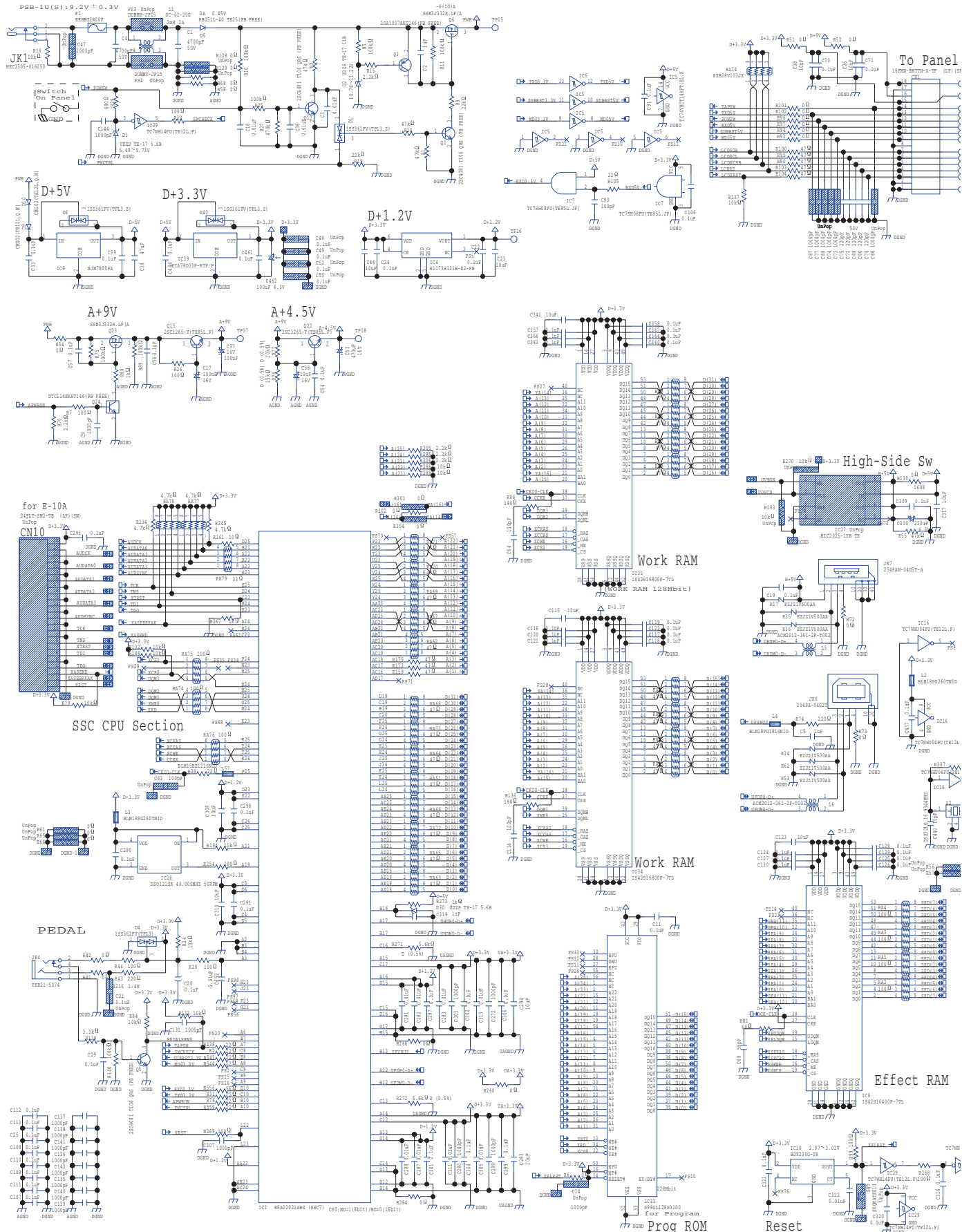
This checks the auto-off function.

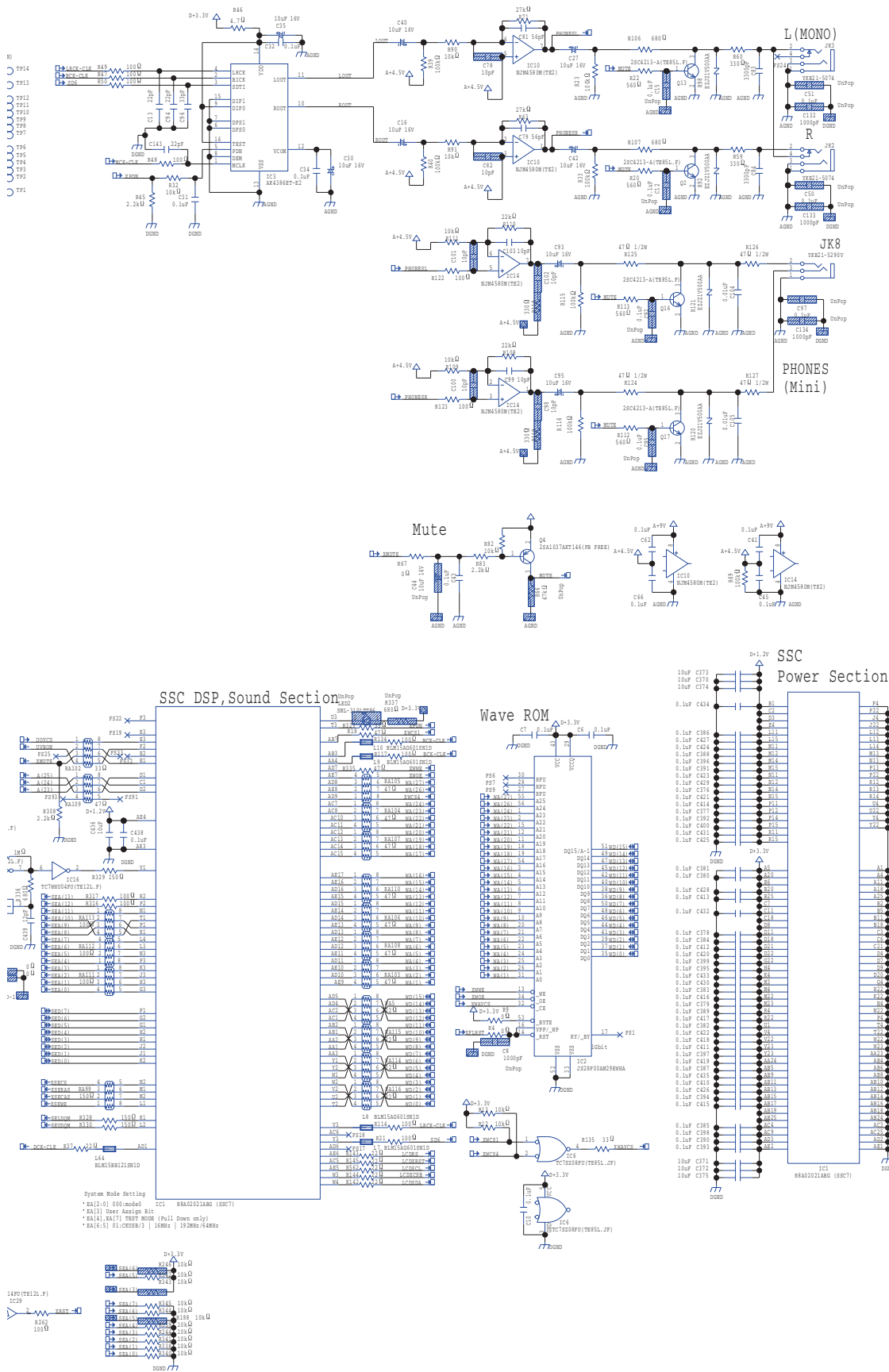
```
-|-----| -
| Press [SAMPLE] |
| Erp Power Off |
-|-----| -
```

Press **SAMPLE**, and verify that the power to the unit is switched off.

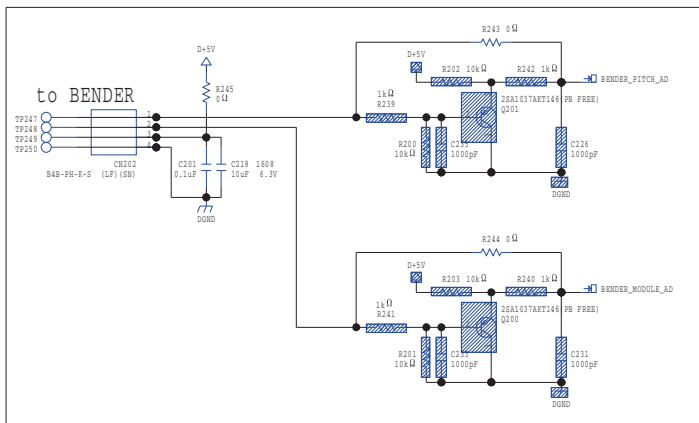
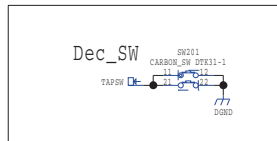
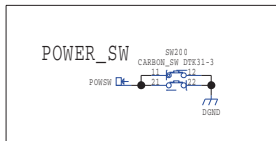
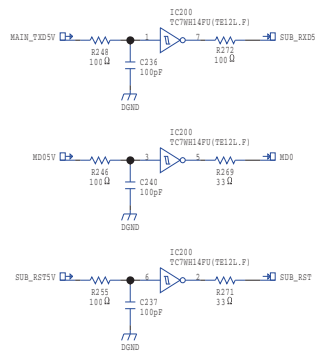
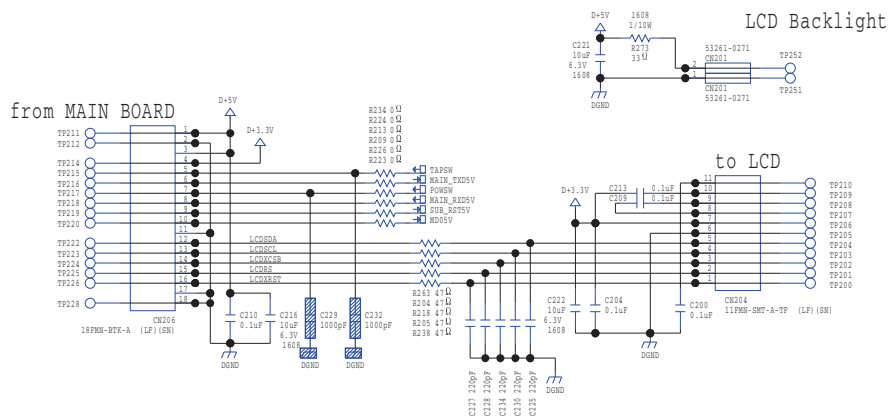
This ends the Test Mode.

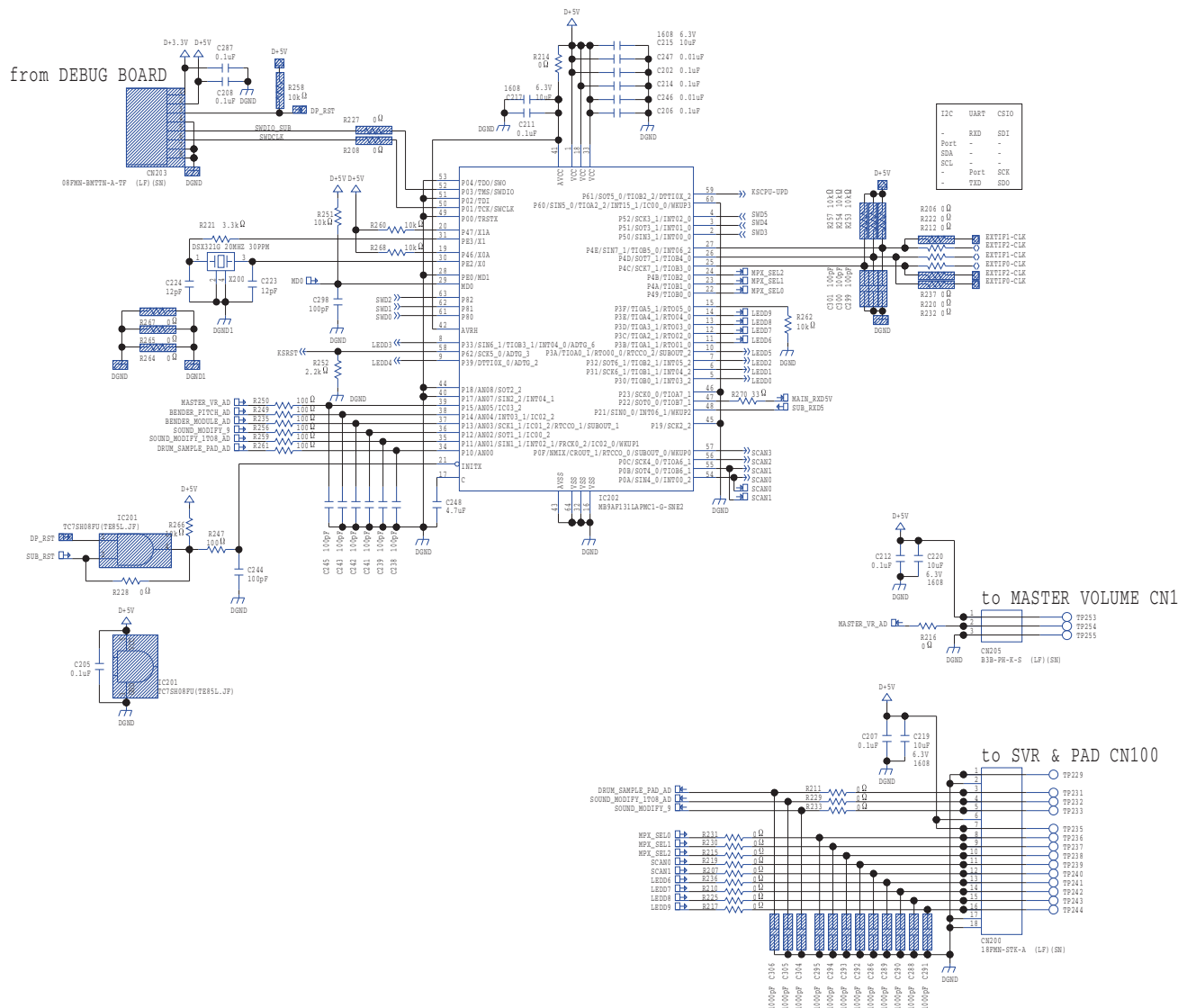
Circuit Diagram (Main Board)



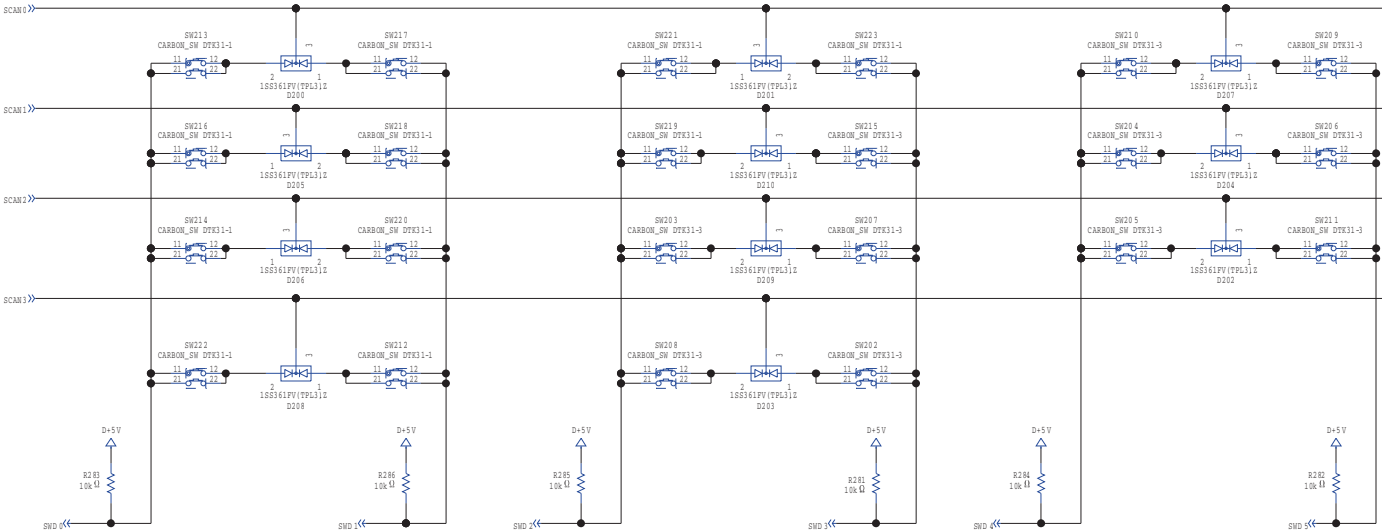


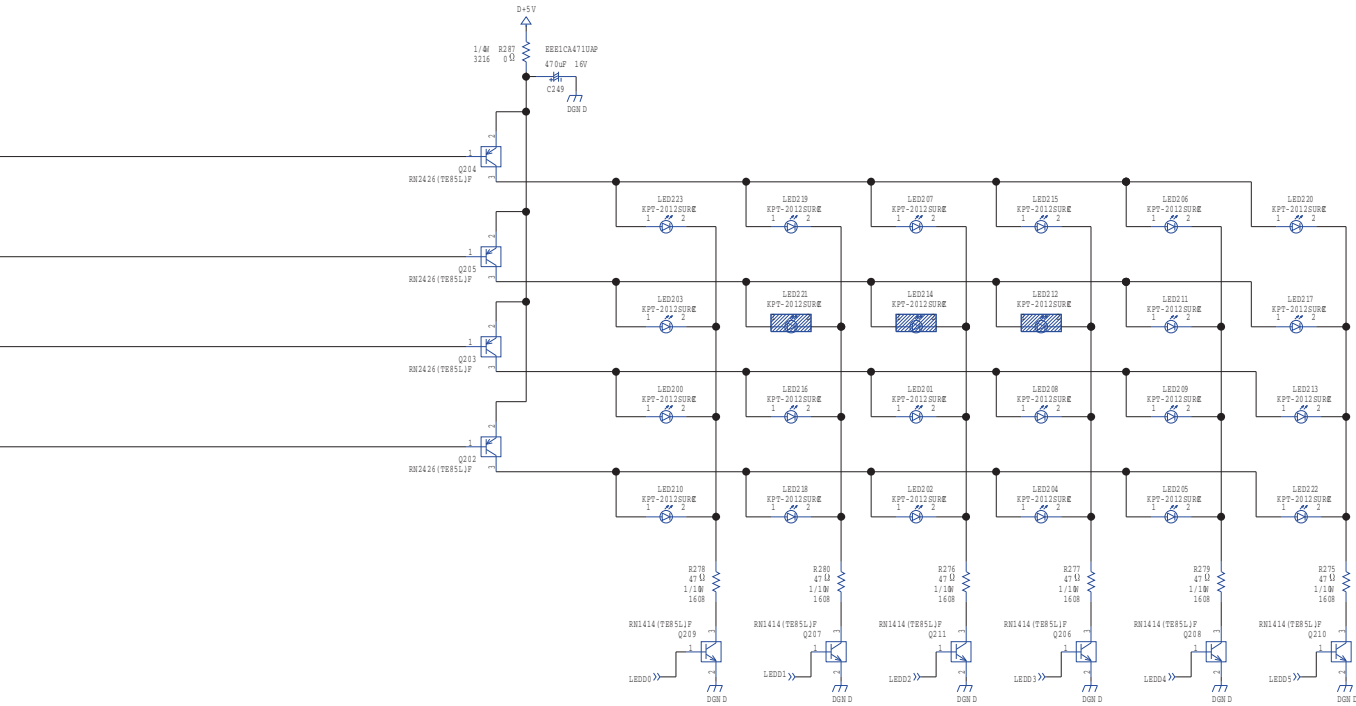
Circuit Diagram (Panel Board: 1/3)





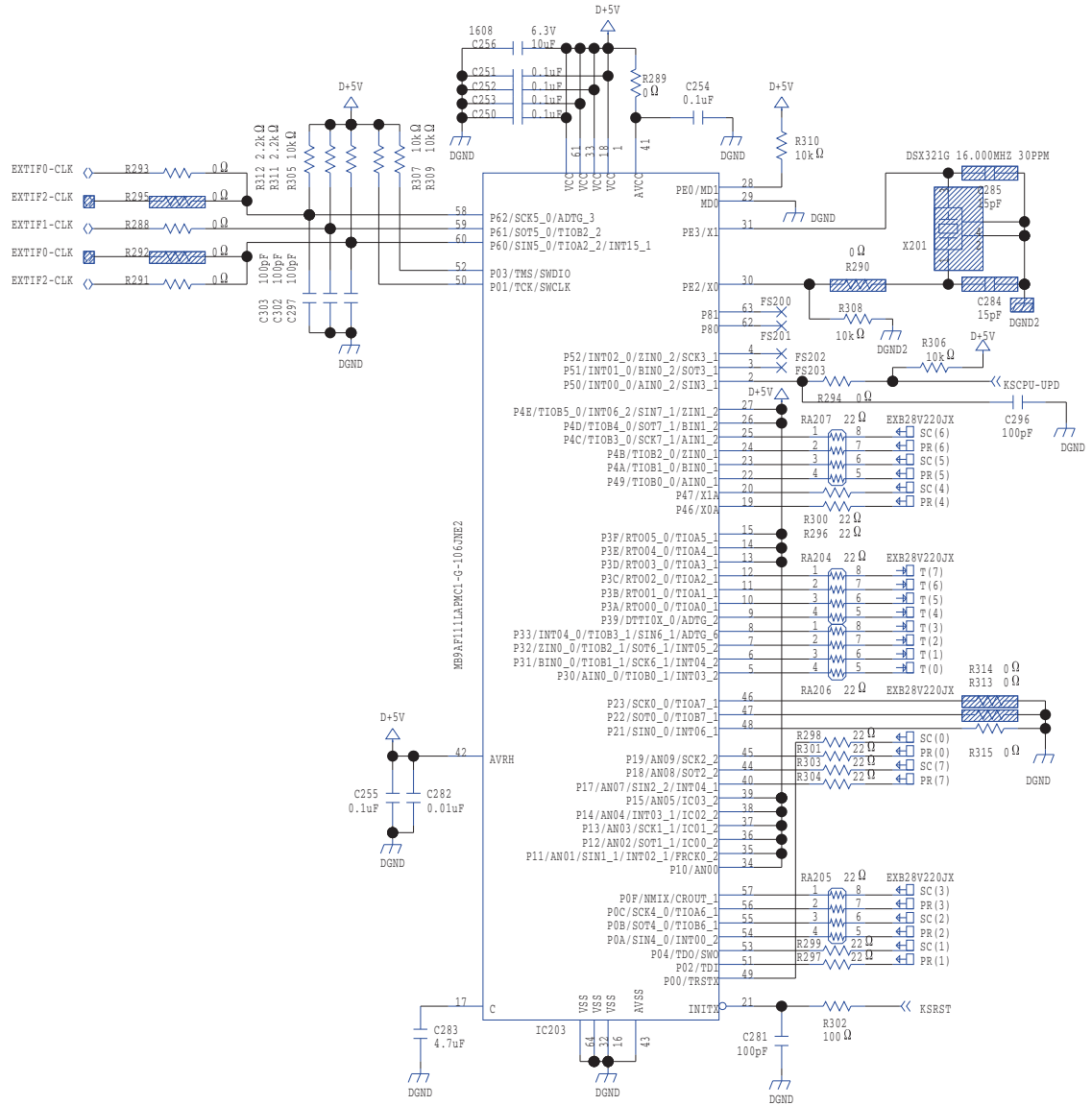
Circuit Diagram (Panel Board: 2/3)

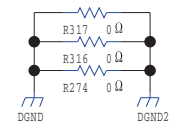




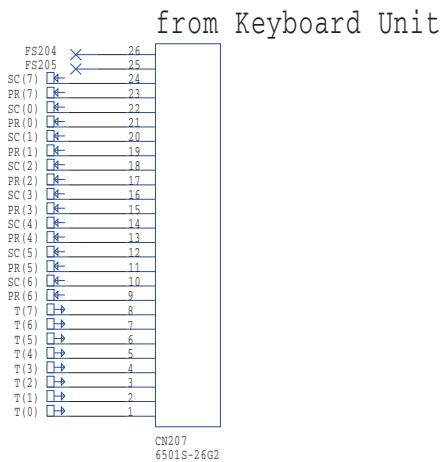
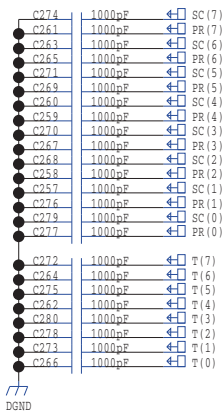
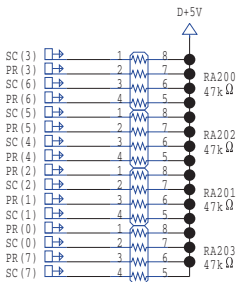
Circuit Diagram (Panel Board: 3/3)

I2C	UART	CSIO
SCL	-	-
-	Port_0	SCK
SDA	TXD	SDO
-	RXD	SDI
Port_0	-	-

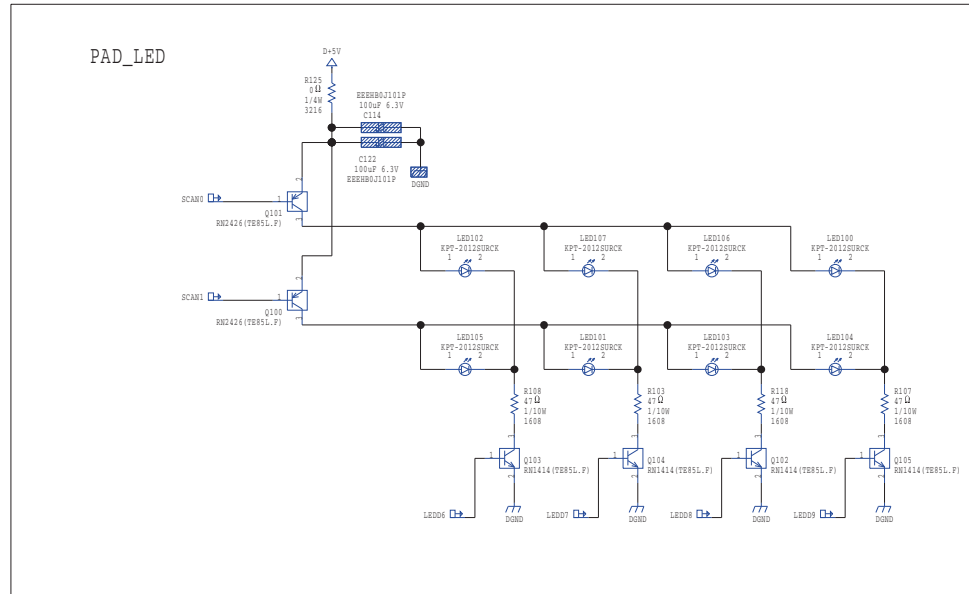
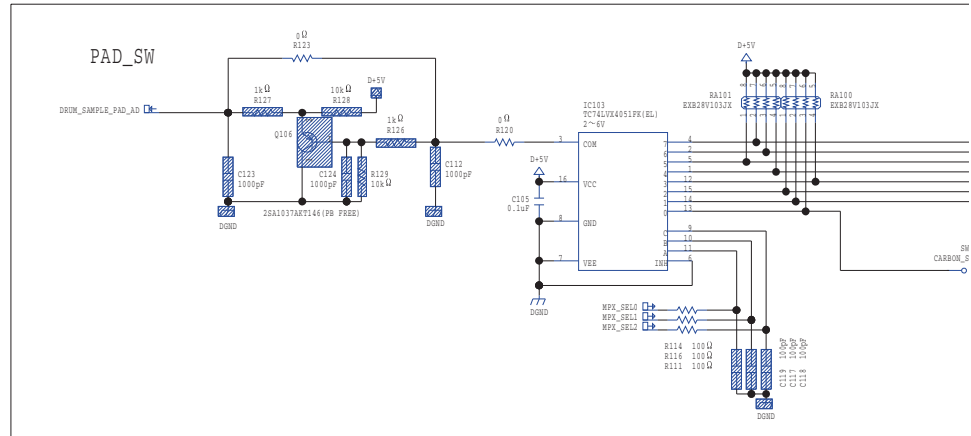
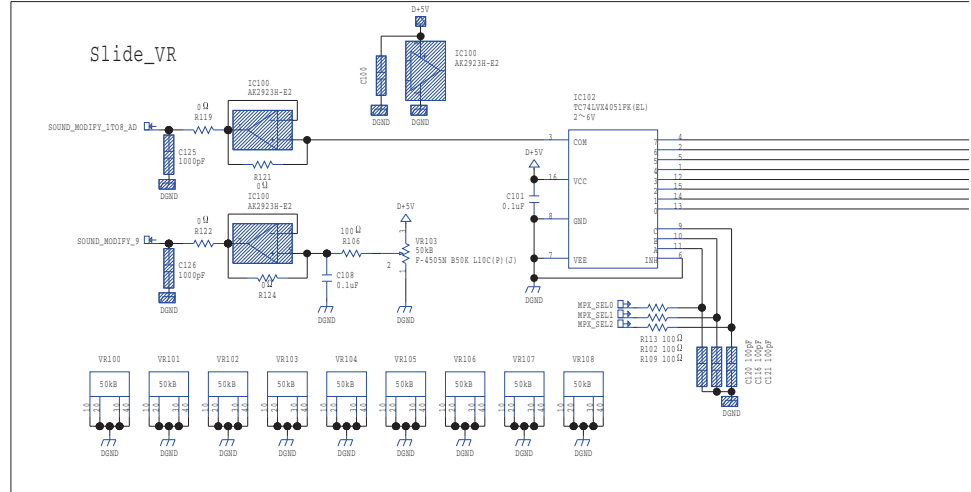


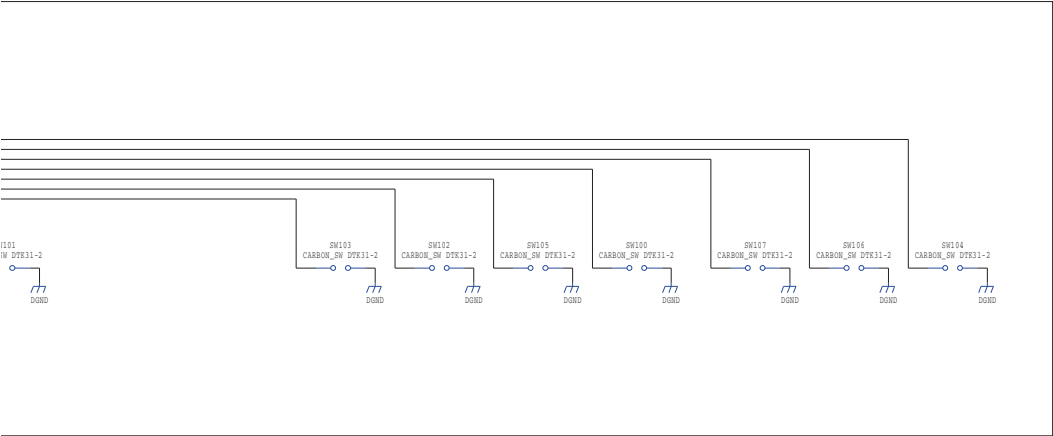
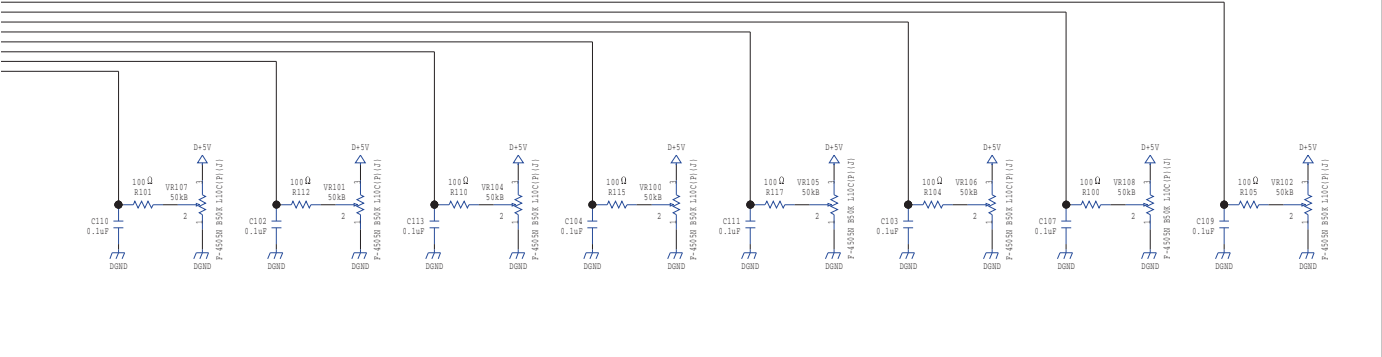


	P23	P22	P21
PHA3/PX-7	H	H	H
MSK-2	H	H	L
UART BOOT	H	L	H (for future use)
PHA3/PX-7	L	H	H (stand alone)
MSK-2	L	H	L (stand alone)



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Circuit Diagram (Master Volume Board)

