Dear customer

LAPIS Semiconductor Co., Ltd. ("LAPIS Semiconductor"), on the 1st day of October, 2020, implemented the incorporation-type company split (shinsetsu-bunkatsu) in which LAPIS established a new company, LAPIS Technology Co., Ltd. ("LAPIS Technology") and LAPIS Technology succeeded LAPIS Semiconductor's LSI business.

Therefore, all references to "LAPIS Semiconductor Co., Ltd.", "LAPIS Semiconductor" and/or "LAPIS" in this document shall be replaced with "LAPIS Technology Co., Ltd."

Furthermore, there are no changes to the documents relating to our products other than the company name, the company trademark, logo, etc.

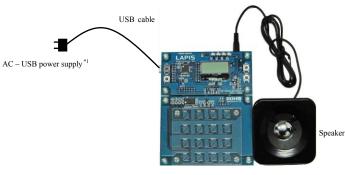
Thank you for your understanding.

LAPIS Technology Co., Ltd. October 1, 2020 memory at the time of shipment.

The following description applies to use in a stand-alone.

ML62

Figure 5 Use with



ML62Q1367 Capacitive Switch Application Board

Figure 2 Use in a stand-alone configuration

• AC – USB power supply are to be supplied by our customers.

If you connect the ML62Q1367 Capacitive Switch Application Board to your PC by the USB cable, power is supplied to it.

1. Connection and launch of the DTMF Sample Program

- 1-1. As shown in figure 1 and figure 2, connect the speaker and the USB cable to the ML62Q1367 Capacitive Switch Application Board.
- 1-2. Connect the USB cable to power supply. The DTMF Sample Program will start, display "LAPIS" on the LCD and sound a beep.



Figure 3 Display of the LCD after starting

1-3. Touch a capacitive switch key of the ML62Q1367 Capacitive Switch Application Board.
 The DTMF Sample Program sounds a DTMF tone corresponding to a touched capacitive switch key and displays a character to on the LCD.



Figure 4 Display example of the LCD after touching capacitive switch key [TSW12] of the ML62Q1367 Capacitive Switch Application Board.

2. Shut down

2-1. Disconnect the USB cable from power supply.

- 3. Copy of ML62Q1000 Capacitive Switch Starter
- 3-1. Insert the "ML62Q1000 Capacitive Switch Start
- 3-2. Copy the "ML62Q1000_CAP_Switch_StarterKi
 - Please copy the "ML62Q1000_CAP_Switch characters except space if you do not copy it
- 3-3. Eject the DVD from the DVD drive of your PC.

4.

- Installing of U8/U16 Development Tools This section will take you through the process of the Device Information Files and the EASE1000
 - Please use Release 2.2.0 or later as the versi
 - Operating environment: Windows 7*, Windows 7
 - Please log on as an administrator account.
 - When U8/U16 Development Tools existing in For uninstallation, refer to Step #15.
- 4-1. Extract the archives of the U8DevTool_*Rx_xx_s*Step #3.

*" **R**

- 4-2. Double-click the U8DevInstaller.exe file in the " When this file is executed, the InstallShield Wiz Writer, the Device Information File and the EAS
 - Follow the instructions of the InstallShield
 - Agree to "SOFTWARE LICENSE AGREE
 - Do not change option settings.
 - Select "Standard" as "Setup Type"

When the InstallShield Wizard displays the "Inst After that, installation has finished.

5. Connecting

- 5-1. As shown in figure 1 and figure 5, connect the M Emulator (hereinafter "EASE1000").
- 5-2. Connect the EASE1000 to PC using the USB cal
- 5-3. Connect the speaker to the ML62Q1367 Capacit
- 5-4. Connect the ML62Q1367 Capacitive Switch App

6. Installing the DTMF Sample Program

6-1. Extract the archives of the CAP_Switch_Sample you copied in Step #3.ML62Q1000 Capacitive S Generator Sample Program will be extracted into "ML62Q1000_CAP_Switch_StarterKit\CAP_Sw *" Vxxx" depends on the ve • When you specify a folder other than the above as the folder specified in the [Workspace] field, specify a folder that complies with the "Restrictions on Input Value" described in the "LEXIDE-U16 User's Manual".

A little while, the LEXIDE-U16 will launch.

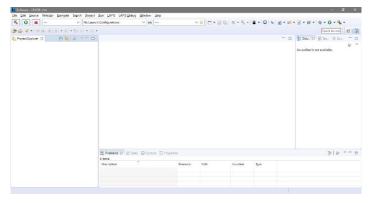


Figure 7 The LEXIDE-U16 immediately after startup (screen when maximized).

Importing the ML62Q1367 DTMF Tone Generator Sample Program project 8.

- This section will take you through the process of importing the DTMF Sample Program project to the LEXIDE-U16. 8-1 Select the [File] menu > [Import...] menu command of the LEXIDE-U16.
- The [Import] dialog box will be opened.
- 8-2. Select [General] > [Existing Projects into Workspace] in the [Import] dialog box and click [Next].

elect	
Create new projects from an archive file or directory.	Ľ
Select an import wizard:	
type filter text	
✓ ➢ General	
Archive File	
😭 Existing Projects into Workspace	
C File System	
Preferences	
Projects from Folder or Archive	
> 🧀 C/C++	
> 😕 Install > 🗁 LAPIS	
> 🗁 LAPIS > 🍃 Oomph	
> Remote Systems	
> > Run/Debug	
> 🦳 Tasks	
> 🦢 Team	

Figure 8 Select [General] > [Existing Projects into Workspace] in the [Import] dialog box.

The [Import] dialog box will be opened.

8-3. Select

"ML62Q1000_CAP_Switch_StarterKit\CAP_Switch_SampleProgram_Vxxx\Software\01_Dtmf_Vyyy\Software_LEXIDE\DtmfS ample" folder in the [Select root directory] field of the [Import] dialog box. The selected folder contains the DTMF Sample Program project file (".cproject", ".project").

*" Vxxx" depends on the version of the ML62Q1000 Capacitive Switch Starter Kit Sample Program Package. *"Vyyy" depends on the version of the DTMF Sample Program.

import Projects		
	ch for existing Eclipse projects.	
Select sort divertory:	C/964202000_CMP_do/5ch_Startart(1)CAP_do/5ch_daep3eProgram,2200/Seftmark/3L_D5ef_v200/Seftmark_LD32B/3teFEarp3e	~ Browse
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Options Search for nested pro Gopy projects into w Hide projects that als		Ngheak
Search for nested pro	okspace	Ngheav
Search for nested pro	okpace ady exist in the workspace	Neg-

Figure 9 Select "root directory" in the [Project path] of the [Import] dialog box.

Figure 11 The LEXIDE-U16 after lo

- Building the ML62Q1367 DTMF Tone Generat 9.
- This section will take you through the process of Confirm that " DtmfSample debug" is displayed 9-1.
 - Software LEXIDE-U16 File Edit Source Refactor 🐔 🚺 🔳 🔘 Run Figure 12 The "I

Click the [Build] button on the toolbar of the LE



You will be able to see the message "Build Finis

10. St	art debugging
	Load the DTMF Sample Program into the ML62
	start debugging.
10-1.	Select "Debug" in the [Launch Mode] field on the
	Software - LEXIDE-U16
	<u>Eile E</u> dit <u>S</u> ource <u>Refac</u>
	R V - V

9-2.



10-2 Click the [Launch in 'Debug' mode] button on the

*



The LEXIDE-U16 will load the DTMF Sample break at the beginning of the main function.

[Supplementary explanation]

During the above processing, the LEXIDE-U16



Figure 14 Displ

After that, LEXIDE-U16 will display the dialog shown in Fig. 15.

10-3 Click the [Yes] button in the [Confirm Perspecti



Figure 15 T

The DTMF Sample Program project will be displayed in the [Import] dialog box (Fig 10).

12. Stopping the ML62Q1367 DTMF Tone Generator Sample Program

12-1. Click the [Suspend] button on the toolbar of the LEXIDE-U16.



Execution of the DTMF Sample Program will stop.

13. Terminating Debug

13-1. Click the [Stop] button on the toolbar of the LEXIDE-U16 to terminate debug.



<Terminated> will be displayed in the [Debug] tab of the LEXIDE-U16.

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e Console 22 🖉 Tasks 🖉 Problems 🜔 Recordation 🕞 Debugger Console			3	= x % li 5	1268 - 0 - 0

[Supplementary explanation]

To return to the layout before debugging, click the [C/C++] perspective button on the right side of the toolbar $\mathbf{E} \subset \mathbf{C}$



14. Shut down

<LEXIDE-U16 >

14-1. Select the [File] menu > [Exit] menu command of the LEXIDE-U16 The LEXIDE-U16will shut down.

<Hardware >

- 14-2. Disconnect the USB cable which is connected to the ML62Q1367 Capacitive Switch Application Board from your PC.
- 14-3. Disconnect the USB cable which is connected to the EASE1000 from your PC.

you can download the latest version from "LAPI that gives registered users. Registration is required to access the site using a Navigate to the support page by clicking on a lin address bar. Then click on the 'Register' link. LAPIS Semiconductor support site URL

https://www.lapis-semi.com/cgi-b

* In order to download the softwa serial number of the EASE100 At the time of registration, sele serial number of EASE1000 V

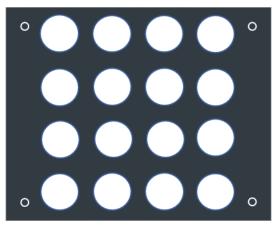
> Category: Microcon Development/evalua The serial number of



Appendices Figure 1 The ML62Q1367 Capacitive Switch Application Board which is inserted the DTMF Sample Program key's sheet.



Appendices Figure 2. DTMF Sample Program key's sheet



Appendices Figure 3. Blank sheet

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