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Renesas Electronics Corporation

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User's Manual

QB-78F8043-EA-01T

Exchange Adapter

Target Device

μ PD78F8040

μ PD78F8041

μ PD78F8042

μ PD78F8043

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第1章 概 説

QB-78F8043-EA-01T は、 μ PD78F8040、 μ PD78F8041、 μ PD78F8042、 μ PD78F8043 を用いたシステム開発において、QB-78K0RKX3C を組み合わせてハードウェアおよびソフトウェアを効率的にデバッグするエクステンジ・アダプタです。

また、本製品を使用する際は QB-78K0RKX3C ユーザーズ・マニュアル (U19324J) も合わせてお読みください。

CHAPTER 1 GENERAL

The QB-78F8043-EA-01T is an exchange adapter that is used in combination with the QB-78K0RKX3C to efficiently debug hardware and software in the development of systems using the μ PD78F8040, μ PD78F8041, μ PD78F8042, and μ PD78F8043.

When using this product, also read the QB-78K0RKX3C User's Manual (U19324E).

1.1 システム構成

QB-78K0RKX3C とホスト・マシンとを接続して使用する場合のシステム構成を次に示します。

1.1 System Configuration

This section shows the system configuration when using the QB-78K0RKX3C connected to a host machine.

図 1 - 1 QB-78F8043-EA-01T 製品外形図 (単位 : mm)

Figure 1-1. QB-78F8043-EA-01T Package Drawing (Unit : mm)

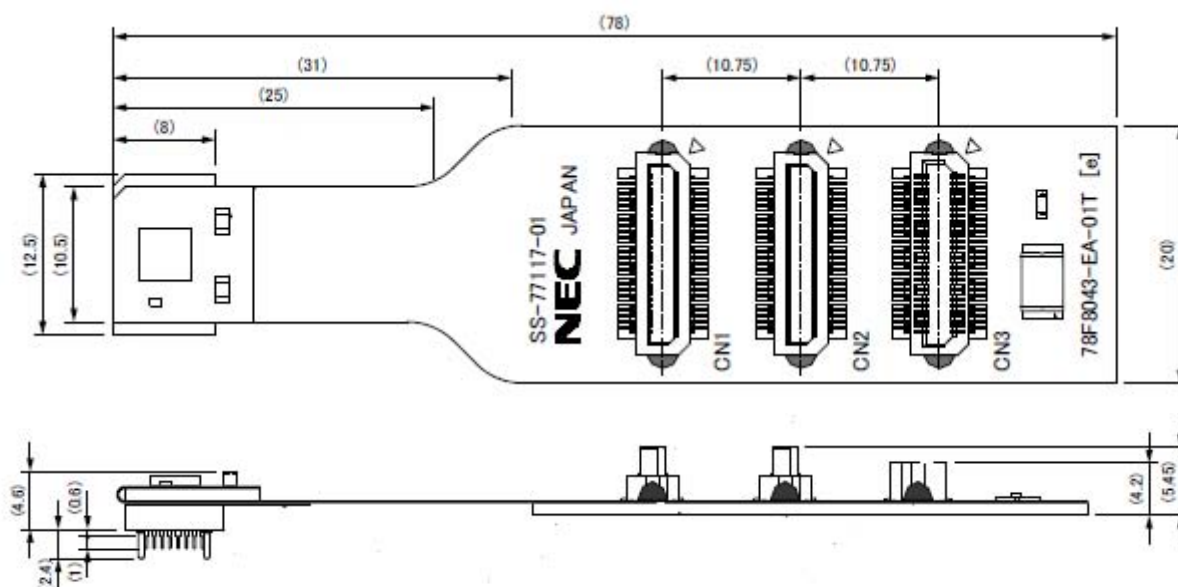


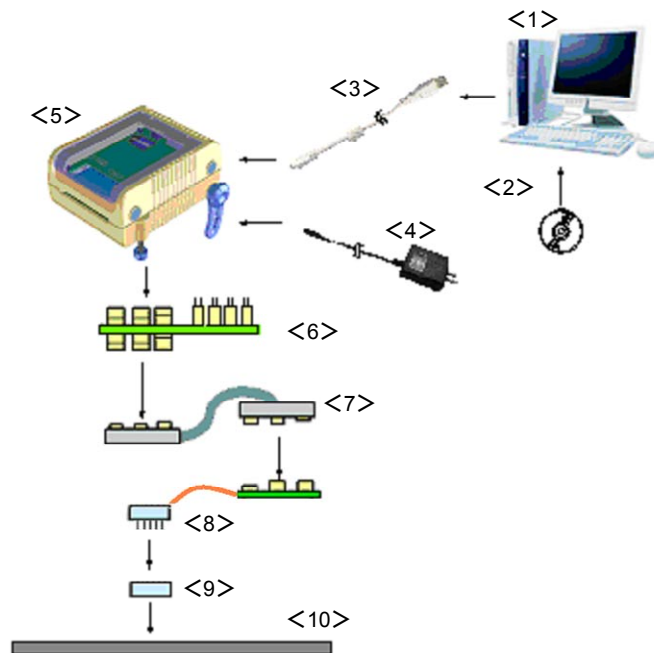
表 1 - 1 本製品を使用した場合のエミュレーション対象デバイス一覧

Table 1-1. Target Devices for Emulation Using This Product

Package	Device Name
56-pin QFN	μ PD78F8040
	μ PD78F8041
	μ PD78F8042
	μ PD78F8043

図 1 - 2 システム構成

Figure 1-2. System Configuration



- <1> Host machine: Windows PC (Windows 2000 and Windows XP), IBM PC/AT compatible can be used
- <2> ID78K0R-QB Disk/Accessory Disk: Debugger, USB drivers, manual, etc.
Obtain latest software from the NEC Electronics website.
- <3> USB interface cable: Cable connecting QB-78K0RKX3C to host machine
- <4> AC adapter: Can support 100 to 240 V by replacing AC plug
- <5> QB-78K0RKX3C: IECUBE
- <6> Check pin adapter (optional) : Adapter used for monitoring waveforms with oscilloscope
- <7> Emulation probe: Probe connecting exchange adapter to QB-78K0RKX3C
- <8> Exchange adapter: This product
- <9> Target connector: Connector soldered to target system
- <10> Target system

Remark Device files can be obtained from the following NEC Electronics websites:
<http://www.necel.com/micro/ods/ja/index.html> (Japanese site)
<http://www.necel.com/micro/ods/en/index.html> (Global site)

1.2 エミュレーション構成

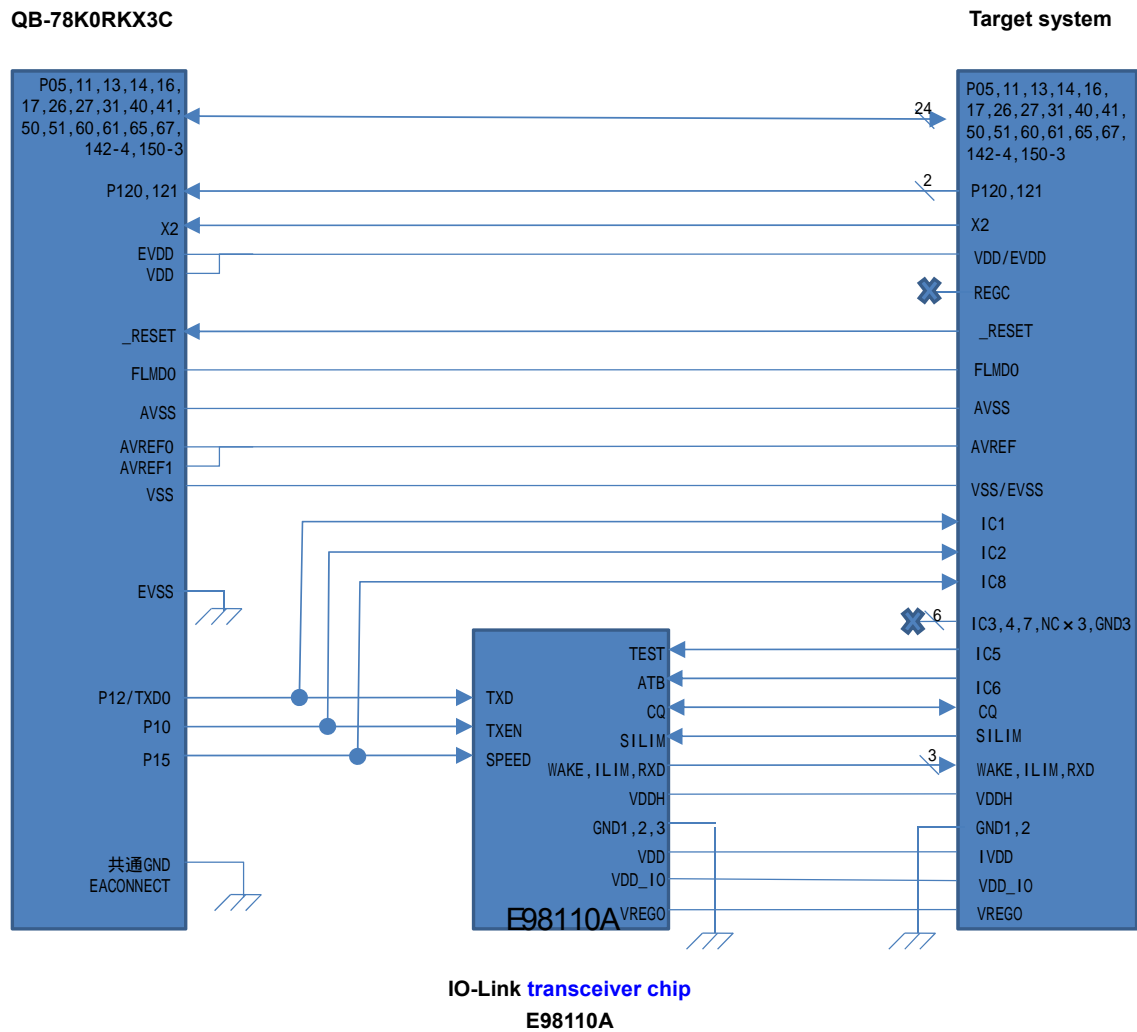
μ PD78F8040, μ PD78F8041, μ PD78F8042, μ PD78F8043 のエミュレーションは、既存製品である QB-78K0RKX3C と E98110A (ELMOS 社製 IO-Link トランシーバ・チップ) を搭載したエクステンジ・アダプタを組み合わせた構成となります。QB-78F8043-EA-01T 構成図を次に示します。

1.2 Emulation Configuration

The emulation of the μ PD78F8040, μ PD78F8041, μ PD78F8042 and μ PD78F8043 is configured by the existing product QB-78K0RKX3C and an exchange adapter mounted with the E98110A (IO-Link transceiver chip made by ELMOS SEMICONDUCTOR AG). The figure below shows the configuration.

図 1 - 3 QB-78F8043-EA-01T 構成図

Figure 1-3. QB-78F8043-EA-01T Configuration Diagram



第2章 セットアップの手順

クロックの設定

内部クロックを使用する場合、ハードウェア設定は不要です。

発振器の実装が必要な場合、QB-78K0RKX3C ユーザーズ・マニュアル 2.2 アクリル板の取り外し、および QB-78K0RKX3C ユーザーズ・マニュアル 2.3 クロックの設定を参照してください。(本製品にサブクロックはありません。QB-78K0RKX3C ユーザーズ・マニュアル 2.3(3) サブシステム・クロックは設定しないでください。)

ソフトウェアのセットアップ

QB-78K0RKX3C ユーザーズ・マニュアル 2.4 ソフトウェアのセットアップを参照してください。

コネクタ類の実装、接続

QB-78K0RKX3C ユーザーズ・マニュアル 2.5 コネクタ類の実装、接続、および本書 2.1 ターゲット・システムと QB-78K0RKX3C の接続を参照してください。

ターゲット・システムと QB-78K0RKX3C の接続

QB-78K0RKX3C ユーザーズ・マニュアル 2.6 ターゲット・システムと QB-78K0RKX3C の接続、および本書 2.1 ターゲット・システムと QB-78K0RKX3C の接続を参照してください。

USB インタフェース・ケーブル、AC アダプタの接続

QB-78K0RKX3C ユーザーズ・マニュアル 2.8 USB インタフェース・ケーブル、AC アダプタの接続を参照してください。

電源投入と切断

QB-78K0RKX3C ユーザーズ・マニュアル 2.9 電源投入と切断を参照してください。

CHAPTER 2 SETUP PROCEDURE

Clock Settings

If using the internal clock, hardware settings are not required.

If mounting an oscillator is required, refer to **QB-78K0RKX3C User's Manual 2.2 Removal of Acrylic Board** and **QB-78K0RKX3C User's Manual 2.3 Clock Settings**. (The actual device does not have a subclock. Do not perform the setting described in **QB-78K0RKX3C User's Manual 2.3 (3) Subsystem clock**.)

Software Settings

Refer to **QB-78K0RKX3C User's Manual 2.4 Software Settings**.

Mounting and Connecting Connectors

Refer to **QB-78K0RKX3C User's Manual 2.5 Mounting and Connecting Connectors** and this manual **2.1 Connecting the Target System and QB-78K0RKX3C**.

Connecting QB-78K0RKX3C to Target System

Refer to **QB-78K0RKX3C User's Manual 2.6 Connecting QB-78K0RKX3C to Target System** and this manual **2.1 Connecting the Target System and QB-78K0RKX3C**.

Connecting USB Interface Cable and AC Adapter

Refer to **QB-78K0RKX3C User's Manual 2.8 Connecting USB Interface Cable and AC Adapter**.

Switching Power On and Off

Refer to **QB-78K0RKX3C User's Manual 2.9 Switching Power On and Off**.

2.1 ターゲット・システムと QB-78K0RKX3C の接続

次に示す手順 ~ でターゲット・システムと QB-78K0RKX3C の接続を行ってください。詳細は **QB-78K0RKX3C ユーザーズ・マニュアル (U19324J)** を参照してください。

なお、QB-78K0RKX3C ユーザーズ・マニュアルに記載されているエクスチェンジ・アダプタは、本製品 (QB-78F8043-EA-01T) と読み替えてください。

ターゲット・コネクタ (QB-56K8-NQ-01T) をターゲット・システムに実装する。

QB-78K0RKX3C の TCN1 と TCN2 と TCN3 にエミュレーション・プローブを接続する。

エクスチェンジ・アダプタ (QB-78F8043-EA-01T) とターゲット・コネクタ (QB-56K8-NQ-01T) を接続する。

エクスチェンジ・アダプタ (QB-78F8043-EA-01T) の CN1 と CN2 と CN3 にエミュレーション・プローブを接続する。

注意 エクスチェンジ・アダプタ (QB-78F8043-EA-01T) とターゲット・コネクタ (QB-56K8-NQ-01T) の 1 ピン位置 (切り欠きが一致) が合うように接続してください。

エクスチェンジ・アダプタとターゲット・コネクタを抜き差しする場合は、エクスチェンジ・アダプタに実装されている部品に触れないように注意してください。破損や接触不良の原因となります。

2.1 Connecting the Target System and QB-78K0RKX3C

Connect the target system and QB-78K0RKX3C according to the following procedures <1> to <4>. For details, see the QB-78K0RKX3C User's Manual (U19324E).

Translate the exchange adapter described in the QB-78K0RKX3C User's Manual into this product (QB-78F8043-EA-01T).

<1> Mount the target connector (QB-56K8-NQ-01T) onto the target system.

<2> Connect the emulation probe to TCN1, TCN2 and TCN3 of the QB-78K0RKX3C.

<3> Connect the exchange adapter (QB-78F8043-EA-01T) to the target connector (QB-56K8-NQ-01T).

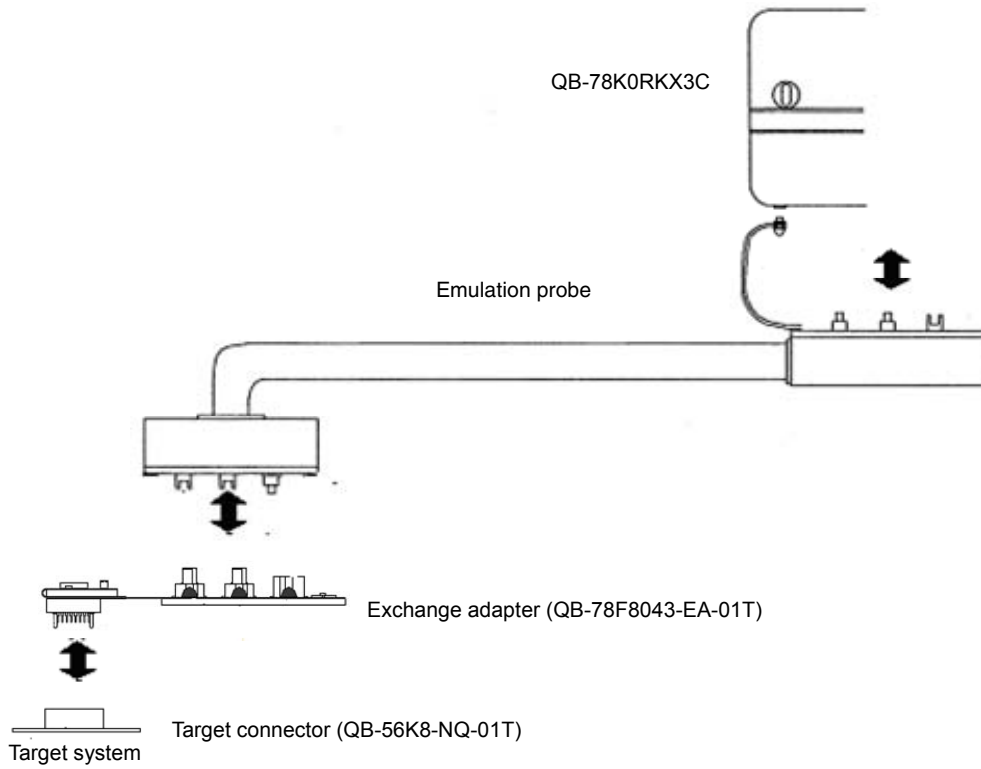
<4> Connect the emulation probe to CN1, CN2 and CN3 of the exchange adapter (QB-78F8043-EA-01T).

Caution Connect the exchange adapter (QB-78F8043-EA-01T) to the target connector (QB-56K8-NQ-01T) so that the pin 1 positions (notches) match.

When plugging/unplugging the exchange adapter into/from the target connector, be careful not to touch any components mounted on the exchange adapter. It may cause damage and contact failure.

図 2 - 1 ターゲット・システムと QB-78K0RKX3C までの接続

Figure 2-1. Connecting the Target System and QB-78K0RKX3C



第3章 注意事項

この章では、QB-78F8043-EA-01T を使用するときの注意事項について説明します。

なお、この章は **QB-78K0RKX3C ユーザーズ・マニュアル (U19324J)** に記載している内容を含みません。
QB-78K0RKX3C ユーザーズ・マニュアルもあわせてお読みください。

QB-78K0RKX3C は最新の管理記号のものを使用してください。

ターゲット・システムから VDD ,VDDH ,IVDD ,VDD_IO ,VREGO に電圧が印加されていない状態でエミュレーションを行うと、QB-78K0RKX3C および QB-78F8043-EA-01T が破壊される恐れがあります。必ずターゲット・システムから電圧を印加している状態でデバッグしてください。

エクステンジ・アダプタとターゲット・コネクタを接続する際、図 3 - 1 のように隙間ができますが、この状態で完全に装着されています。

CHAPTER 3 CAUTIONS

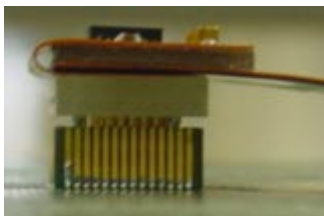
The following are cautions when using the QB-78F8043-EA-01T.

This chapter does not include the content described in the **QB-78K0RKX3C User's Manual (U19324E)**. Read also the QB-78K0RKX3C User's Manual.

- Use the QB-78K0RKX3C with the latest control code.
- The QB-78K0RKX3C and QB-78F8043-EA-01T may be damaged if emulation is executed without voltage being applied to VDD, VDDH, IVDD, VDD_IO and VREGO from the target system. Be sure to apply voltage from the target system when executing a debug operation.
- Figure 3-1 below shows the exchange adapter connected to the target connector. Though you can see a space between the exchange adapter (QB-78F8043-EA-01T) and target connector (QB-56K8-NQ-01T), the two are connected correctly.

図 3 - 1 エクステンジ・アダプタ (QB-78F8043-EA-01T) とターゲット・コネクタ (QB-56K8-NQ-01T) の接続

Figure 3-1. Exchange Adapter (QB-78F8043-EA-01T) Connected to the Target Connector (QB-56K8-NQ-01T)



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