# MS7548-20G   Users Guide

## 1．General Description

MS7548-20G is a writing target board for standard serial I/O mode used by connecting to EFP-I/IM or EFP-S2/S2V.

Reading and writing data to microcomputer 7548 groups with built-in Renesas Electronics 8 bit QzROM, is enabled by using MS7548-20G.

IC socket for 20 pin 0.65mm pitch LSSOP (PLSP0020JB-A) (20P2F-A) is mounted on MS7548-20G.

＜Packing contents＞

１）MS7548-20G

２）Users guide (this manual)

External Figure of MS7548-20G is shown in Fig 1.1.



Target cable connection connector(J1)

IC Socket : 20LSSOP Type
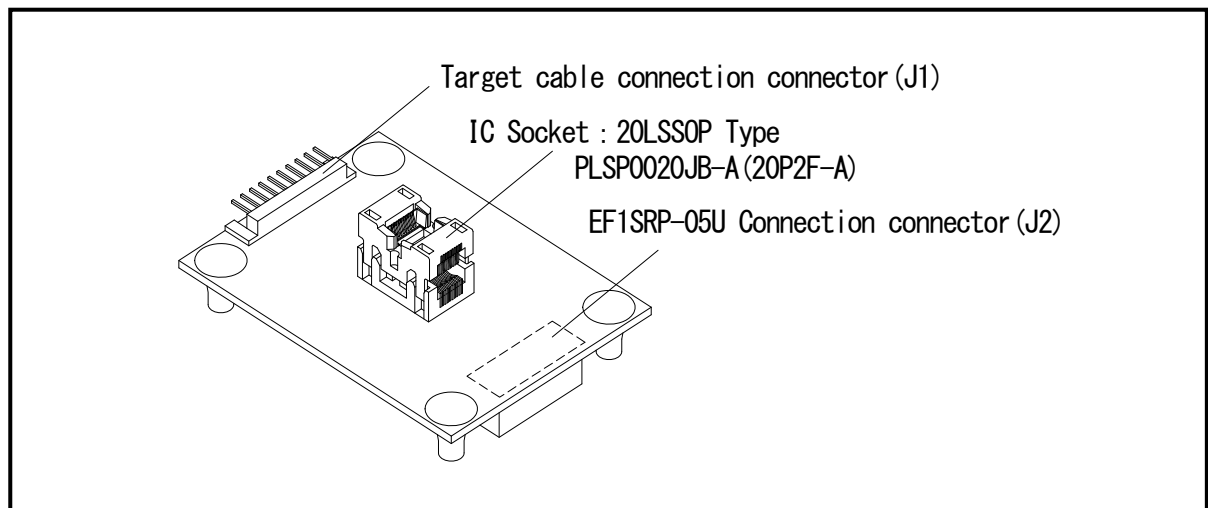PLSP0020JB-A(20P2F-A)

EF1SRP-05U Connection connector(J2)

Fig 1.1  MS7548-20G External Figure

## ２．Device constitution and a connection method

### ２．１　Device constitution

Device constitution when you use MS7548-20G is shown in Fig.2.1.

Fig2.1 Device constitution

| Main body | unit | cable |
|---|---|---|
| EFP-I/1M | EF1RP-05U | ― |
| EFP-S2/S2V | EF1RP-05U＋EF1CNT-96P　*1 | ― |
| | EF1RP-01US2 | EF1TGCB-B (4-wire target connection cable)(option) |

*1) when you use EF1SRP-05U in EFP-S2/S2V, EF1CNT-96P (separate sale) is necessary.

### ２．２　Connection Process

In case MS7548-20G is connected, please use EF1SRP-05U as shown in Fig.2.1.

In case EF1SRP-01US2 is connected, please use EF1TGCB-B (4-wire target connection cable) as shown in Fig.2.2.
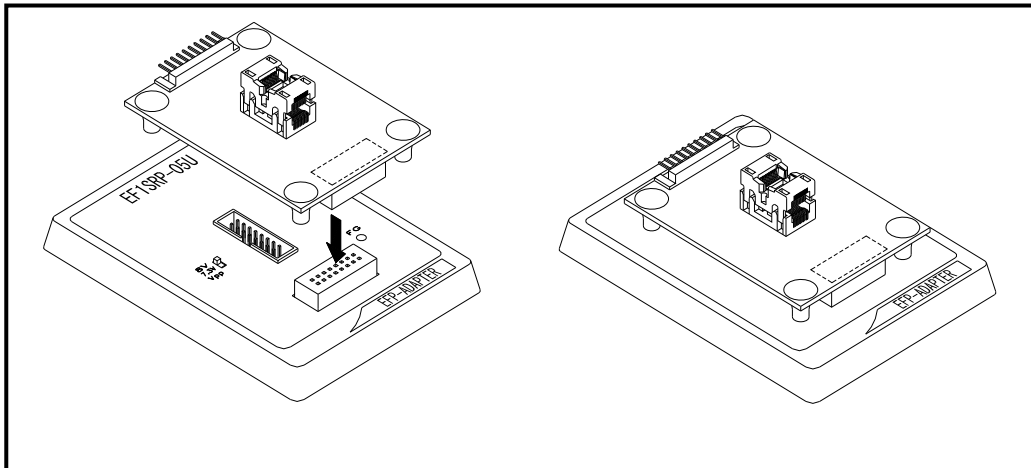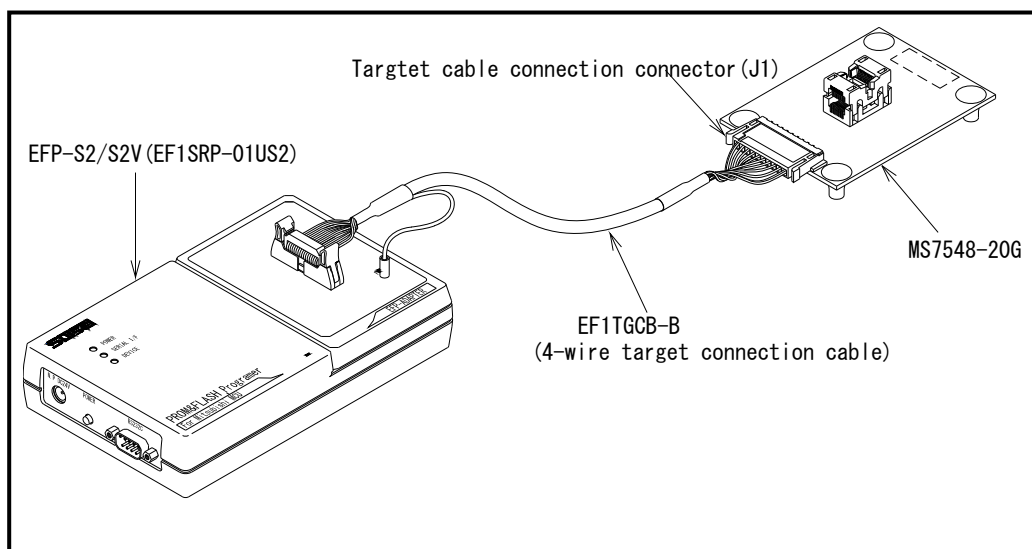


Fig.2.1　Connection with EF1SRP-05U



Fig2.2　Connection with EF1SRP-01US2

## ３．List of Corresponding MCU and corresponding version

### ３．１　List of Corresponding MCU

A corresponding MCU list of MS7548-20G is shown in Fig.3.1.

Fig3.1 List of Corresponding MCU

| Main Body | MCU Type | Corresponding MCU name | Program memory area | EF1SRP-05U SW Setting |
|---|---|---|---|---|
| EFP-I/1M | M37548/M37549G1 (Vdd:5V Vpp:7.9V) | M37549G3FP | E880h～ FFFDh | T_VPP : 7.9V side *1 |
| | M37548/M37549G1 (Vdd:5V Vpp:7.9V) | M37549G2FP | F080h～ FFFDh | |
| | M37548/M37549G1 (Vdd:5V Vpp:7.9V) | M37549G1FP | F880h～ FFFDh | |
| EFP-S2/S2V | M37548G3/M37549G3 | M37549G3FP | E880h～ FFFDh | |
| | M37548G2/M37549G2 | M37549G2FP | F080h～ FFFDh | |
| | M37548G1/M37549G1 | M37549G1FP | F880h～ FFFDh | |

*1) when you use EF1SRP-05U in FP-S2/S2V, EF1CNT-96P (separate sale) is necessary.

### ３．２　About Software version(S/W)

The version numbers such as EFP-I and WinEFP are displayed by [Help]→[About] in the WinEFP window menu. Please download the latest version up data on the following site when the S/W version such as EFP- I  used is old.

< EFP- I  S/W the latest free download site >
http://www.suisei.co.jp/download_e/productdata_efp1_e.html

< EFP-S2 S/W the latest free download site >
http://www.suisei.co.jp/download_e/productdata_s2_e.html

< EFP-S2V S/W the latest free download site >
http://www.suisei.co.jp/download_e/productdata_s2_e.html

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Note on Corresponding Versions

Above corresponding versions might change without notice on account of the future
capability improvement, etc.  Furthermore in case the upgrade procedure manual is
attached when this product is purchased, please refer to that manual as a priority.
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## ４．Insertion Direction of MCU and cleaning of IC socket

### ４．１ Insertion Direction of MCU

When MCU is inserted, No.1 pin of the IC socket on MS7548-20G and MCU's No.1 pin should be connected.

The Wrong insertion would cause a serious breakage of MCU.

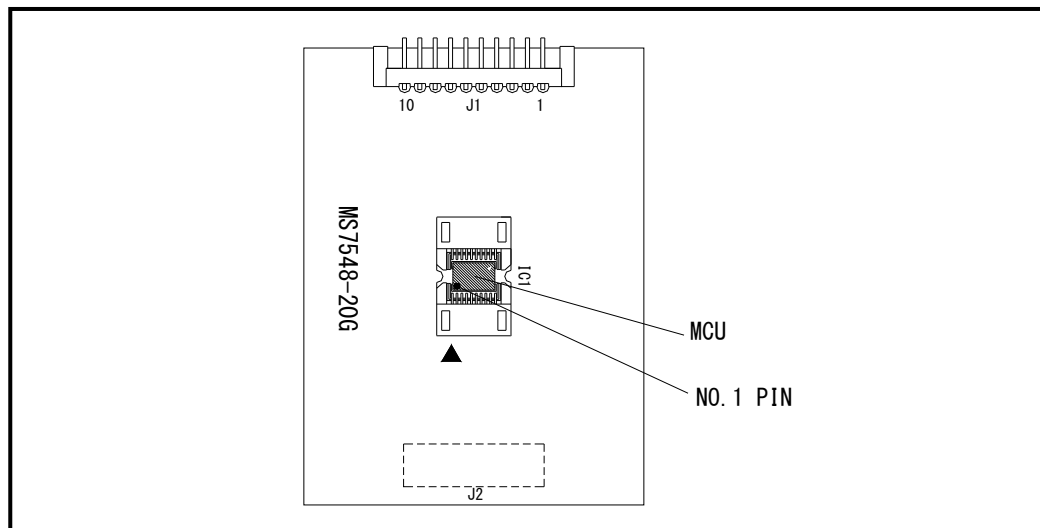Insertion direction of MCU is shown in Fig4.1.



Fig.4.1 Insertion Direction of MCU

### ４．２ Cleaning of IC Socket

A contact pin inside of the IC socket of the MCU unit might deteriorate and a contact failure might occur because of the number of times used and its age of service. As the contact failure may cause incorrect writing of MCU and malfunction of the writer, please take the below measures.

> **Measures against IC Socket Contact Failure**
>
> (i) Please clean the contact pin surface inside of IC socket with a brush, etc. regularly, depending on the number of times used.
> (ii) If the product is not to be used for a long period, please keep it with less humidity in a plastic bag, etc.

Though enquiries on contact failures can be made, we regard IC sockets as consumable supplies. We may recommend you to replace them if a contact failure of IC socket occurs due to its use deterioration.

【Recommended item for cleaning】

About the cleaning of the contact pin in the IC socket, we recommend the use of the nanotech brush (Kita Mfg Co., Ltd).

The nanotech brush can remove the dirt which stuck to a contact pin, a very small amount of metastasis of solder. When a contact poor problem occurred, please try it.

About nanotech brush, please ask us or Kita Mfg Co., Ltd (refer to the following site).

Nanotech brush (Kita Mfg Co., Ltd.) http://www.kita-mfg.com/pro_nanotech_e.html

## ５．List of Pin Connection

J1 connector terminal names of MS7548-20G are shown in List 5.1.

List 5.1　　List of J1 Connector Connection Terminal

| Pin No. | Terminal Name | I/O(writer side) | PIN No. | Terminal Name | I/O(writer side) |
|---|---|---|---|---|---|
| 1 | ＧＮＤ | ― | 6 | ＳＣＬＫ | Output |
| 2 | ＲＸＤ | Input | 7 | ＴＸＤ | Output |
| 3 | ＢＵＳＹ | Input | 8 | ＰＧＭ／ＯＥ | Output |
| 4 | ＶＰＰ | Output | 9 | ＲＥＳＥＴ | Output |
| 5 | ＶＤＤ | Output | １０ | ＧＮＤ | ― |