To our customers,

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April 1st, 2010
Renesas Electronics Corporation

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User's Manual

M37531T-ADS

User's Manual

Temporary Target Board for M37531RSS, M37532RSS, M37534RSS, M37536RSS, M37540RSS, M37542RSS, M37544RSS

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Rev.1.00 2003.09

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\SUPPORT\Product-name\SUPPORT.TXT

Renesas Tools Homepage http://www.renesas.com/en/tools

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1. Things to Check When Unpacking

The M37531T-ADS package consists of the following products. When unpacking your package, check to see that all of these components are included.

Table 1.1 Package components

Temporary target board	M37531T-ADS
User's manual	M37531T-ADS User's manual (this manual)

* If you find any item missing or faulty, or any suggestion, contact your local distributor.

2. Outline

The M37531T-ADS is a temporary target board used to develop software with a PC4701 emulator system. It supplies to the emulator MCU the minimum required signals needed to operate the 7531/7532/7534/7536/7540/7542/7544 Group RSS MCUs, including power supply voltage, clock signals and reset signals. Use it when the target system is not ready.

3. Specifications

Table 3.1 lists specifications of the M37531T-ADS.

Table 3.1 Specifications of the M37531T-ADS

Applicable MCU		M37531RSS M37532RSS M37534RSS M37536RSS M37540RSS M37542RSS M37544RSS
Clock		4.0MHz oscillator mounted (oscillator circuit board OSC-2 used)
Vcc		Supplied separately*
Vss		Supplied separately*
RESET		• Reset circuit mounted (power-on reset and reset switch) • Connects the reset output of an emulation pod
External dimensions	Width	90 mm
	Depth	115 mm
Others		• Pattern for CR oscillator prepared • Universal part prepared

* Power cannot be supplied from the emulation pod for PC4701 (e.g. M38000TL2-FPD). A separate power supply is needed.

4. Setting Up

This chapter describes how to set up the M37531T-ADS.

(1) Mount an emulator MCU on the M37531T-ADS. After checking the position of the No. 1 pin of the emulator MCU, mount the emulator MCU.

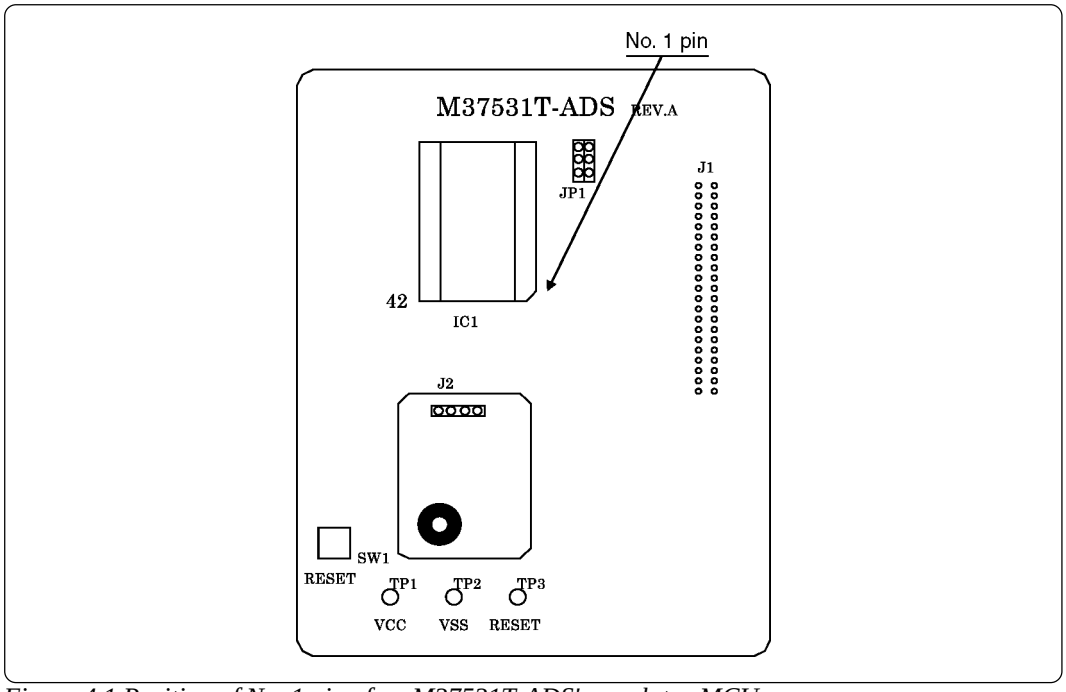


Figure 4.1 Position of No. 1 pin of an M37531T-ADS's emulator MCU

(2) Connect the white cable and black cable of the emulation pod to RESET pin (TP3) and Vss pin (TP2) of the M37531T-ADS respectively.

(3) Connect a power supply (not included) to Vcc pin of the M37531T-ADS. And connect the GND output of the power supply to Vss pin.

(4) **Do not connect the yellow cable of the emulation pod to Vcc pin (TP1).**

Tables 4.1 lists the correspondence of the connector cables and signals, and Figure 4.2 shows the connection.

Table 4.1 Connector cables of the M38000TL2-FPD and applicable signals

Cable color	Signal
White	RESET
Black	Vss
Yellow	Vcc (no connection)

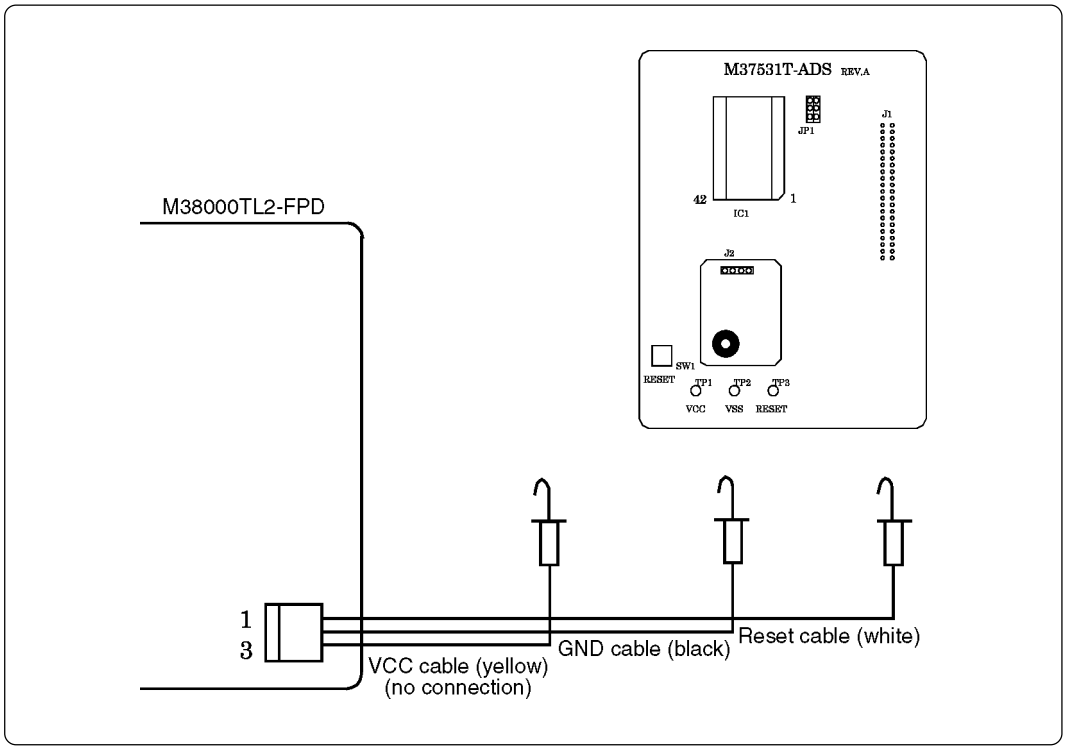


Figure 4.2 Connecting the M37531T-ADS

⚠ CAUTION

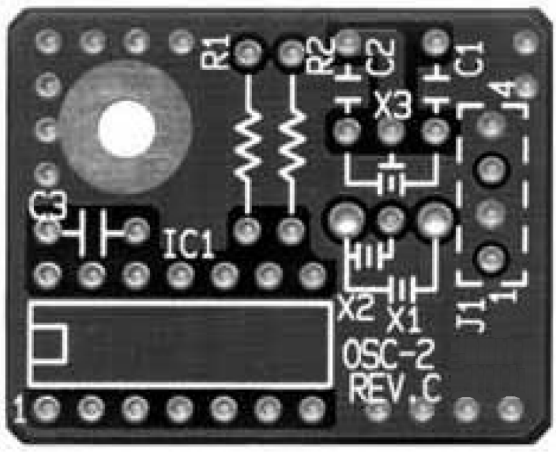
Note on Setting Up:

- Always shut OFF power before connecting this product. The power ON state could destroy internal circuits.

5. Oscillator Circuit

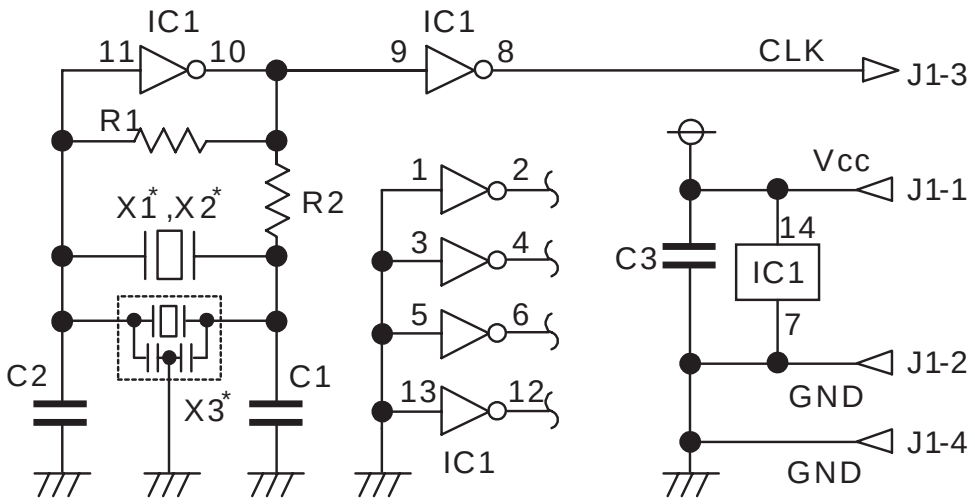
5.1 Oscillator Circuit Board

The M37531T-ADS has a built-in oscillator circuit board on which a 4.0MHz oscillator is mounted.



J1-4: GND
J1-3: Oscillator output
J1-2: GND
J1-1: VCC (5 V)

Figure 5.1 External view of the oscillator board (OSC-2) and connector pin assignment



*** X1: 5.08-mm-pitch 2-pin oscillator**
X2: 2.54-mm-pitch 2-pin oscillator
X3: 2.54-mm-pitch 3-pin oscillator

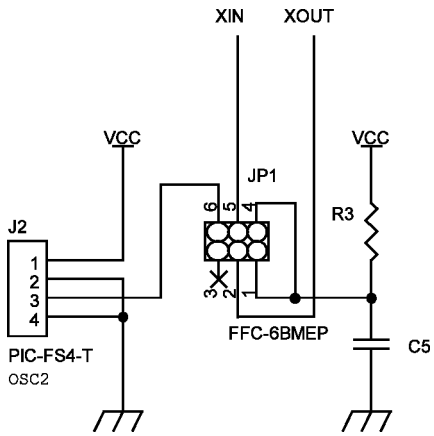
IC1: Inverter (Unbuffer)

Figure 5.2 Circuit of the oscillator board (OSC-2)

5.2 Using the CR Oscillator Circuit Pattern

There is a CR oscillator circuit pattern on the M37531T-ADS.

To use the CR oscillator circuit pattern, mount R3 and C5, and remove the coated wire of JP1, then change the setting.



As pins 5-6 and 2-3 of JP1 are shorted out by the coated wire when shipped from the factory, use the oscillation of OSC-2.

To use the CR oscillator circuit pattern, mount R3 and C5, and remove the coated wire of JP1, then change the setting as following.

When using CR oscillation: Short-circuit 4-5, 1-2
When using OSC-2: Short-circuit 5-6, 2-3

Figure 5.3 Using the CR oscillator circuit pattern

⚠ CAUTION

Note on Setting Up:

- Always shut OFF power before connecting this product. The power ON state could destroy internal circuits.

6. Pin Layout

Figure 6.1 shows the pin layout of the M37531T-ADS.

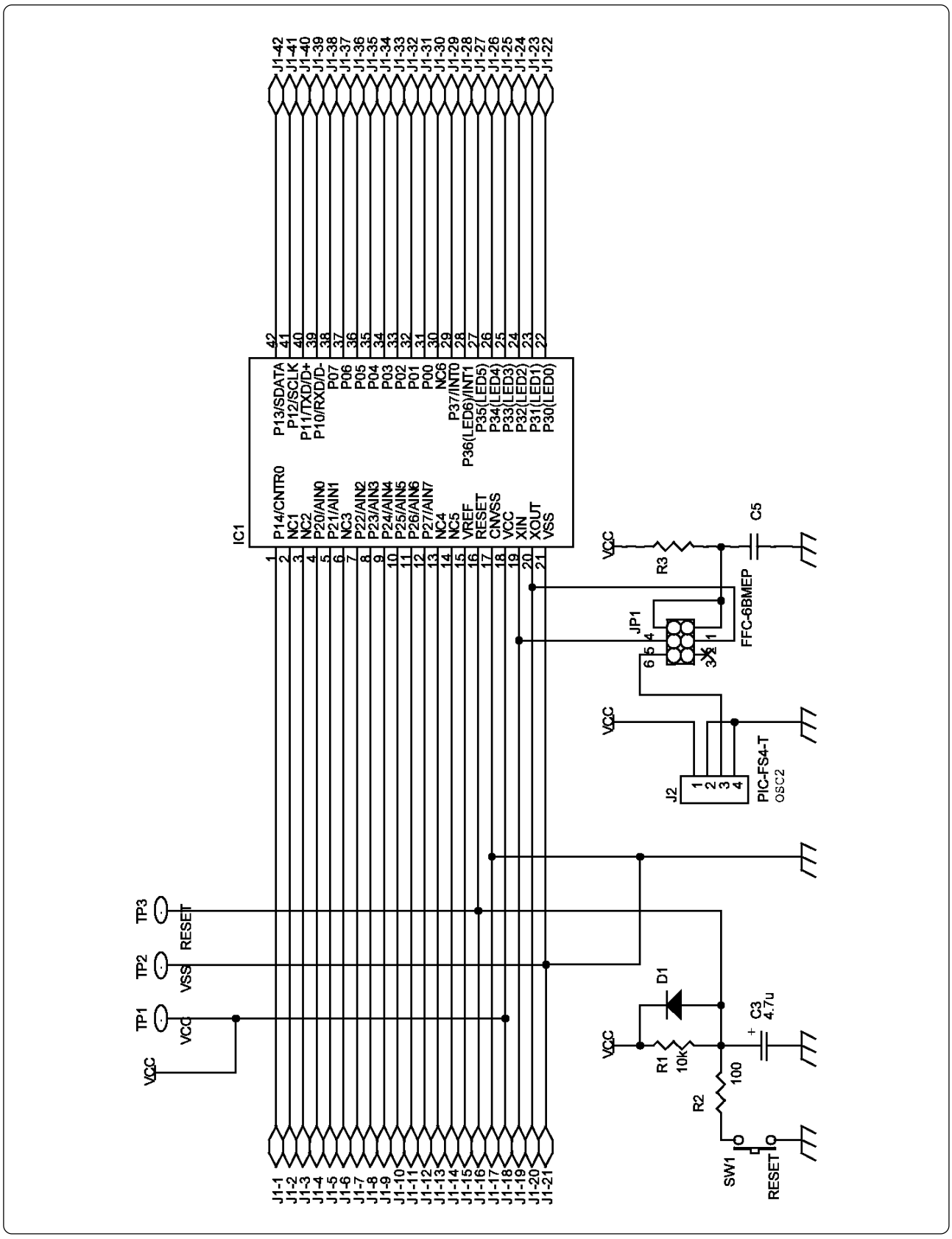


Figure 7.1 Pin layout of the M37531T-ADS

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M37531T-ADS
User's Manual

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