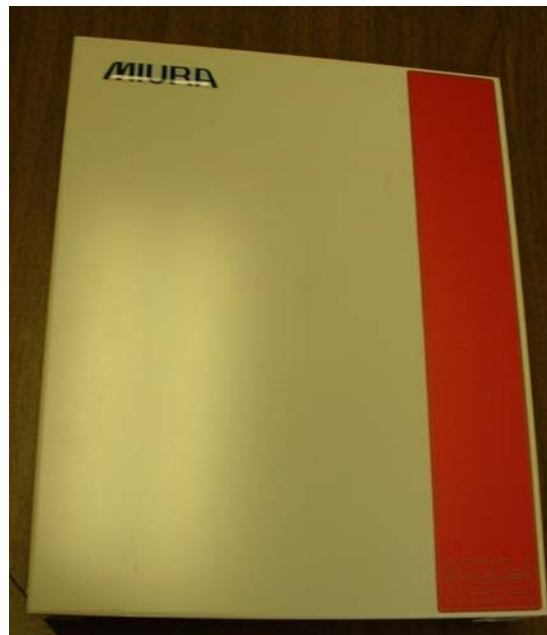




Multiple Installation Online Communication
(MOM)
ENGINEERING, INSTALLATION
& START UP MANUAL
MTU-100UL



MIURA BOILER CO., LTD.

* INFORMATION IN THIS MANUAL MAY BE CHANGED WITHOUT NOTICE.
OWNER SHALL MAINTAIN THIS MANUAL IN LEGIBLE CONDITION FOR FUTURE REFERENCE.

Revised 02/22/05

TABLE OF CONTENTS

1	<i>Specifications</i>	1
2	<i>Installation</i>	2
2.1	Mounting	2
2.2	Wiring	3
2.2.1	MTU Wiring	3
2.2.2	Network Wiring	4
3	<i>Designated Communication Cable</i>	5
4	<i>Setting and Initialization (Before communication test)</i>	6
4.1	Boiler (XJ1) Setting and Initialization	6
4.2	Boiler ID Setting and Initialization	7
4.3	Boiler MA2 Setting and Initialization	8
4.4	MTU-100 MA2 Setting and Initialization	9
5	<i>The Points of Communication Wiring</i>	10

1 Specifications

- Name of the unit: MI online communication interface unit
- Model: MTU-100 UL
- Manufacture: Miura Boiler Co., Ltd.
- Boiler models: EX, EXH, LX, LXL, and WX series
- Connection: Boilers -----one net work (in-line connection)
Telephone line ----- dedicated line
[Analog phone line]

- Maximum total network wire length: 3000 ft
- Maximum number of connected boilers: 31
- Built-in modem: ZOOM 56K External Fax Modem (Model:2949)
- Dimension: 320 mm (W) x 400 mm (H) x 60 mm (D)
- Electrical ratings: AC 120V (+10%, -15%)
- Frequency: 50/60 Hz
- Power consumption: 15 W maximum
- Operation temperature limits: +32 °F minimum, +100 °F maximum
10% R.H. minimum, 90% R.H. maximum
(Non-condensing)

- Unit weight: 12 lbs.

✓ CHECK SHEET:
✓ Dedicated analog telephone line is required.
✓ Do not connect in common with fax machine, voice telephone or extension line.
✓ Use 20 gage shielded, twisted pair wire in a daisy chain configuration.
✓ Do not reverse polarity of wires.

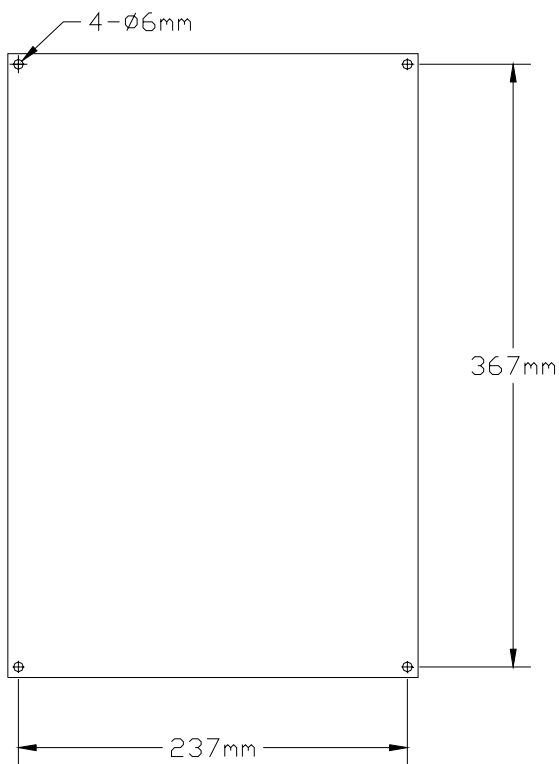
2 Installation

2.1 Mounting

MTU-100 UL is a single wall mounted unit. The master panel communicates with each individual boiler Multiple Installation communication board, model MA2-901 that is installed by the factory in each boiler, by a simple twisted pair network.

MTU-100 UL is capable of connecting up to 31 boilers.

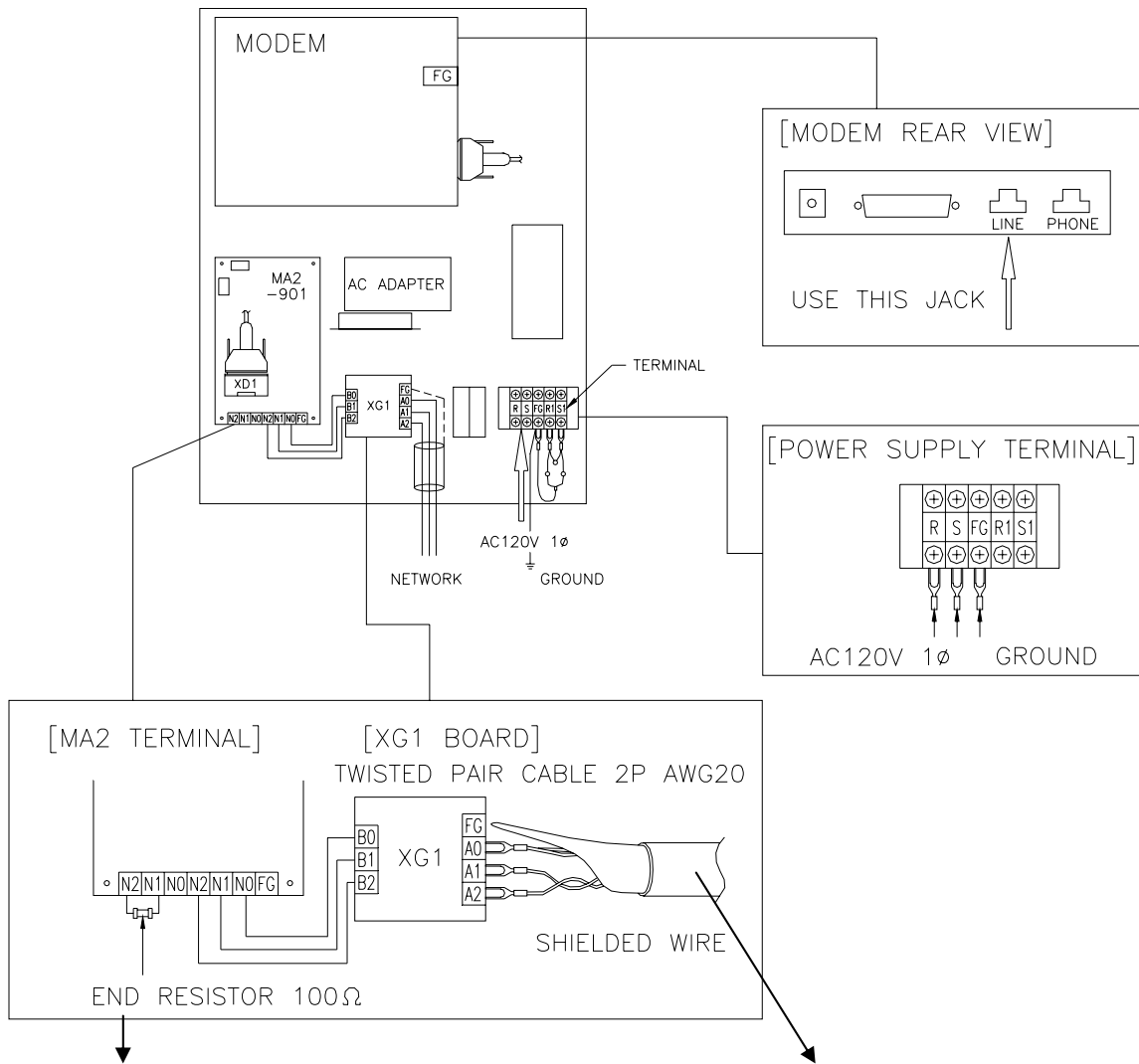
[Mounting holes]



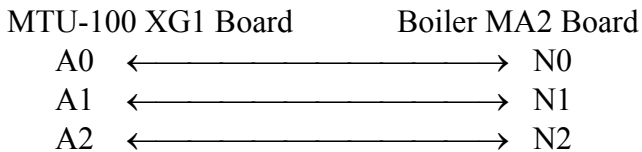
- Mount wiring holes downward.
- Do not weld the panel on the wall or post directly.

2.2 Wiring

2.2.1 MTU Wiring

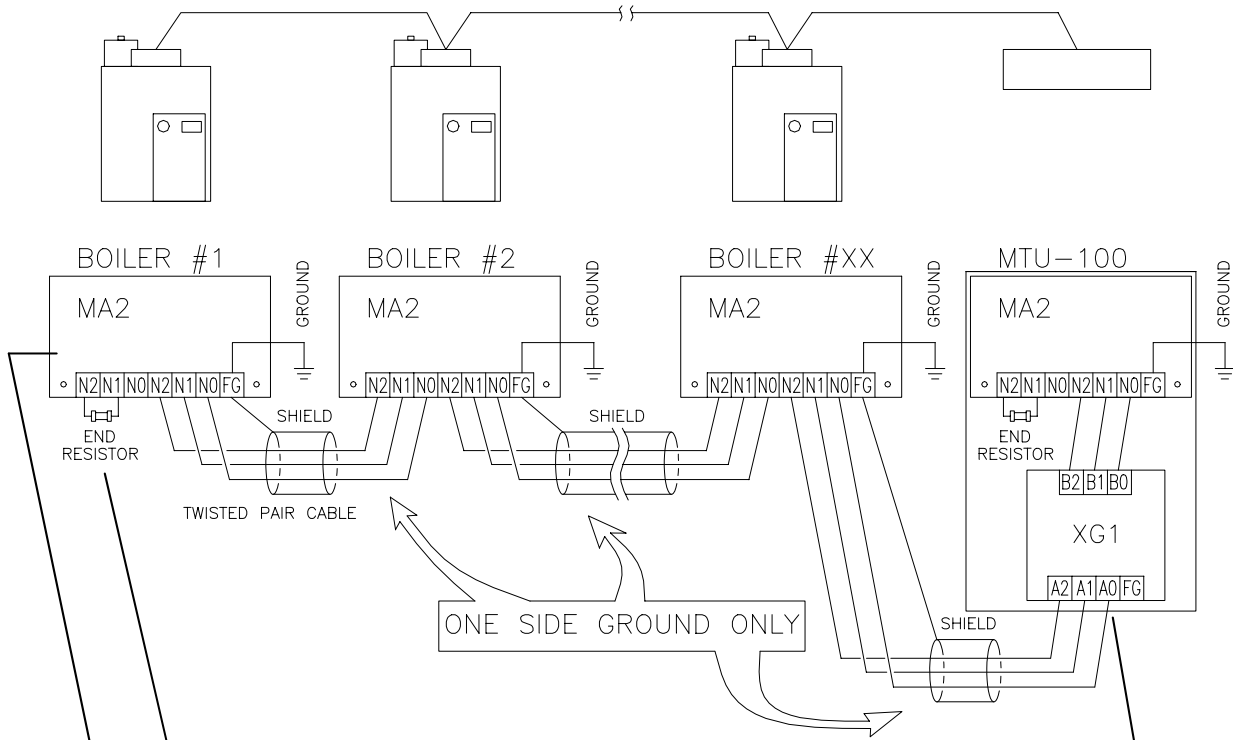


Do not remove the end resistor! To the closest boiler's MA2 Board terminal in the daisy chain. (N0, N1, N2) Please see follow page for details.

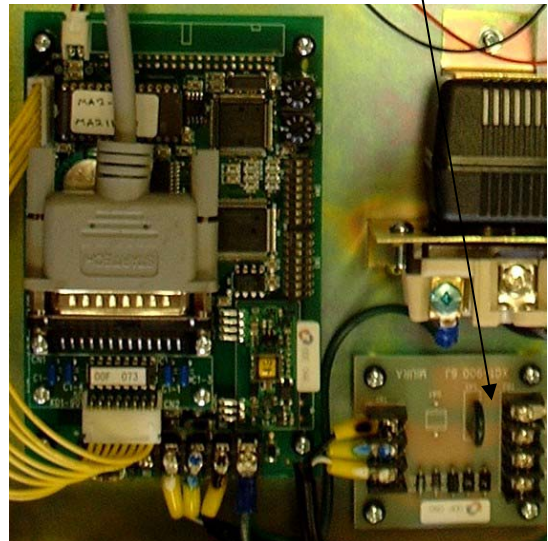


- Shielded wire of the twisted pair cable must be connected to the ground (terminal FG) one side only. Do not connect both sides to the ground.

2.2.2 Network Wiring (MTU ~ the Boilers)



Boiler MA2 Board

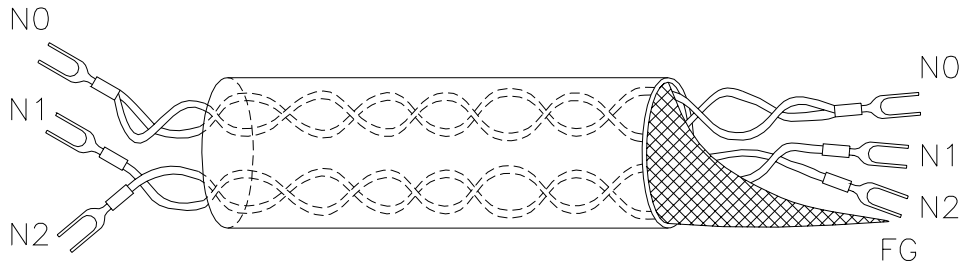


MTU-100 MA2(Left) and XG1(Right) Board

3 Designated Communication Cable

The designated communication cable must be used. If the cable is not the designated one, it can cause communication interference.

[Designated communication cable]



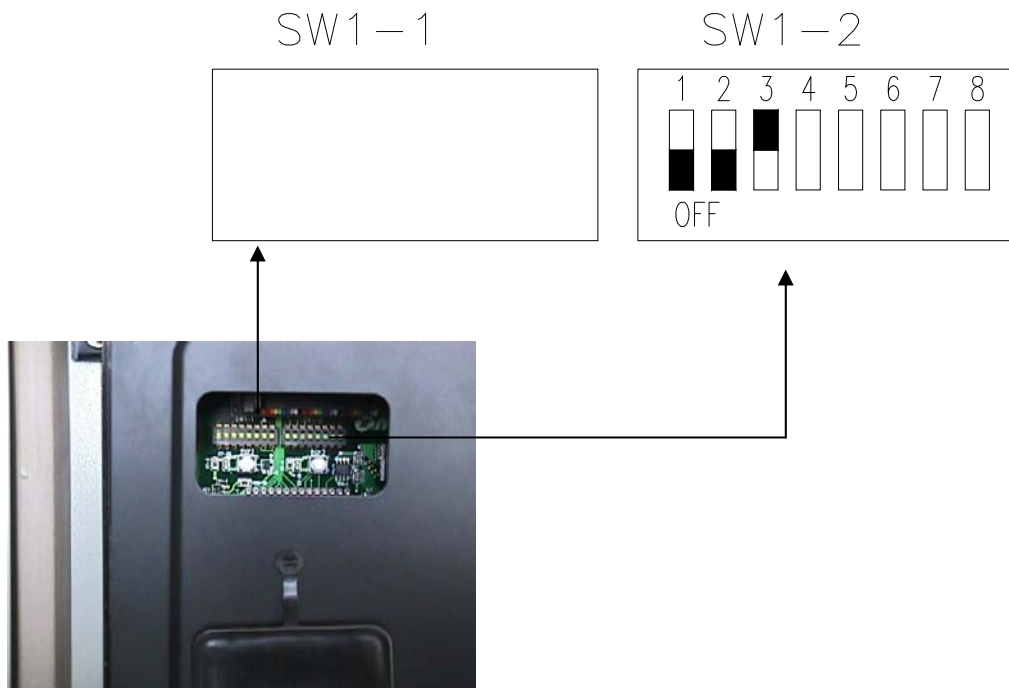
Use shielded – twisted pair cable 2P (two pair) AWG-20 as communication cable.

4 Setting & Initialization (Before communication test)

After proper installation, MOM (MIURA Online Maintenance) needs to be set and initialized properly. There are three physical pieces of hardware that has to be programmed to make the system work – 1) the XJ1 setting in the boiler panel 2) the MA2 board on each boiler, and 3) the MA2 board on the MTU. Please read this carefully and perform completely before you call MIURA for communication test.

4.1 Boiler (XJ1) Setting and Initialization.

Set DIP-SW (SW2) on CPU board as follow:



DIP-SW(SW1-2) is located in the CPU black box inside of the boiler control box.

NOTE:

Confirm SW1-2-1 and SW1-2-2 is OFF, then turn SW1-2-1 to “ON” one second then re-return to “OFF” to initialize.

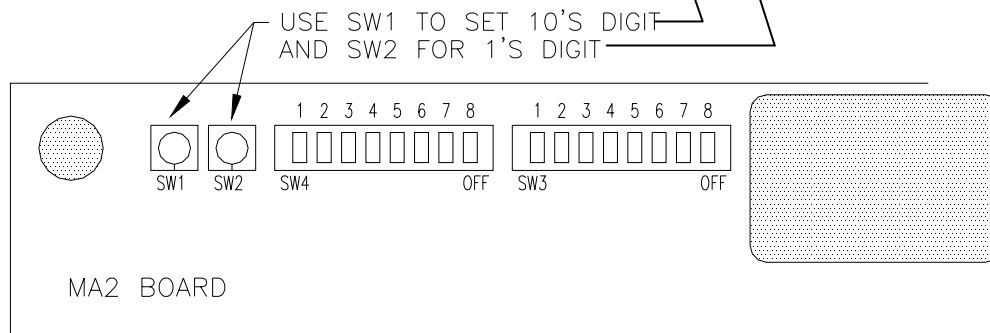
4.2 Boiler ID Setting and Initialization.

Each boiler has to have ID number.

Set the ID number on MA2-901 board which is mounted in the boiler control cabinet.



MA2 Board in the boiler control box.



For example > if there are 5 boilers, set as follows:

Boiler #1 ID No. 01

Boiler #2 ID No. 02

Boiler #3 ID No. 03

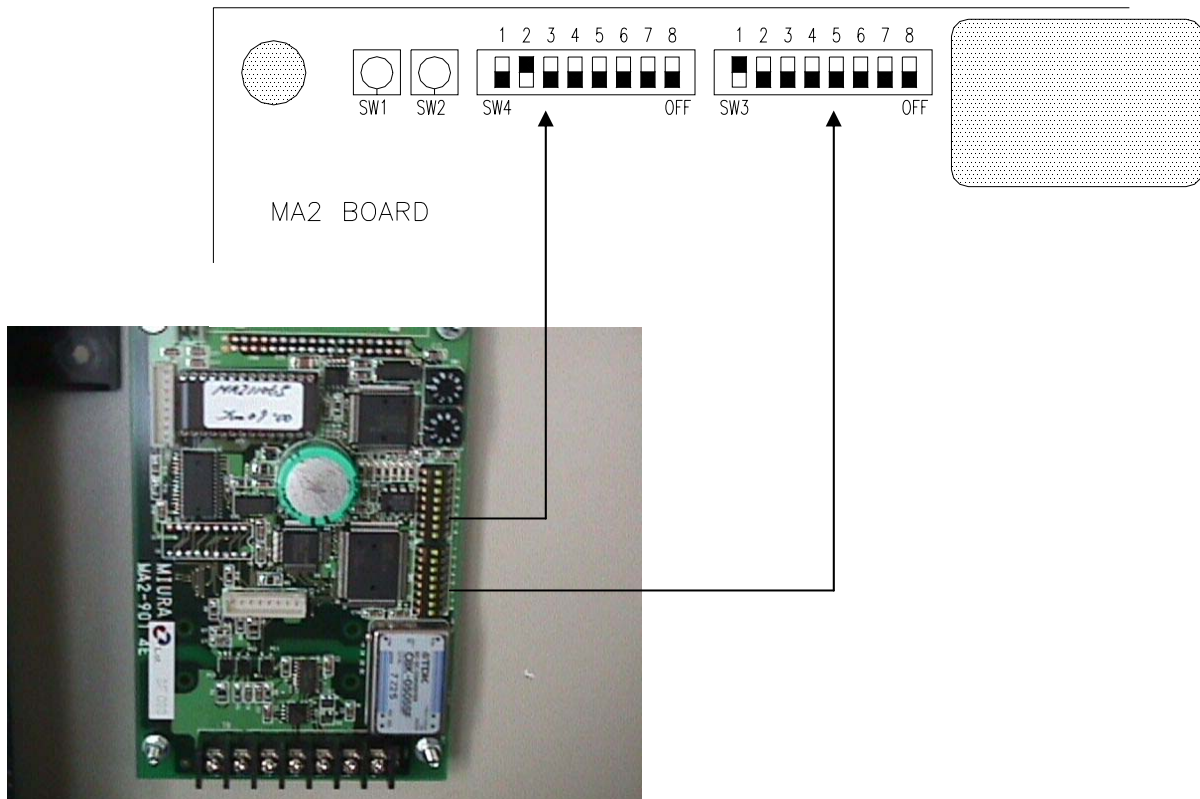
Boiler #4 ID No. 04

Boiler #5 ID No. 05

Suggestion: Number the boiler starting from the boiler closest to MTU-100 to the last boiler.

4.3 Boiler MA2 Setting and Initialization

Set DIP-SW (SW3/SW4) on MA2 board in the boiler cabinet as follow:

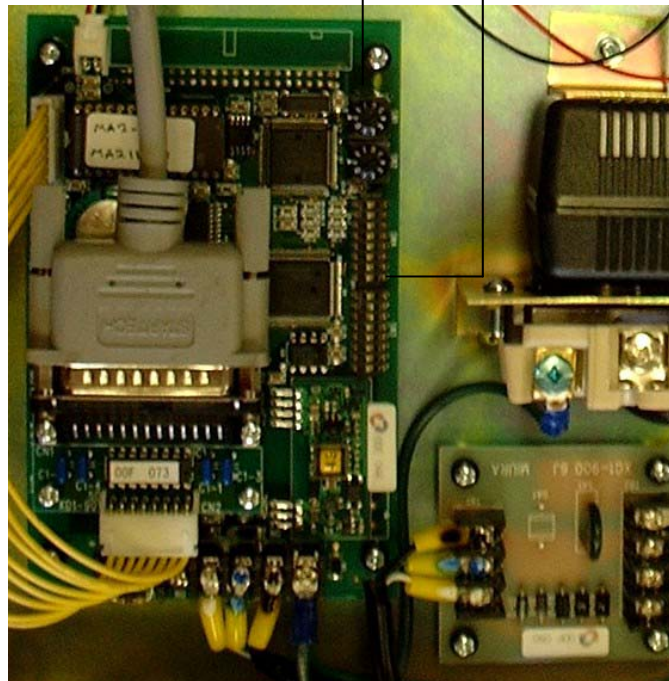
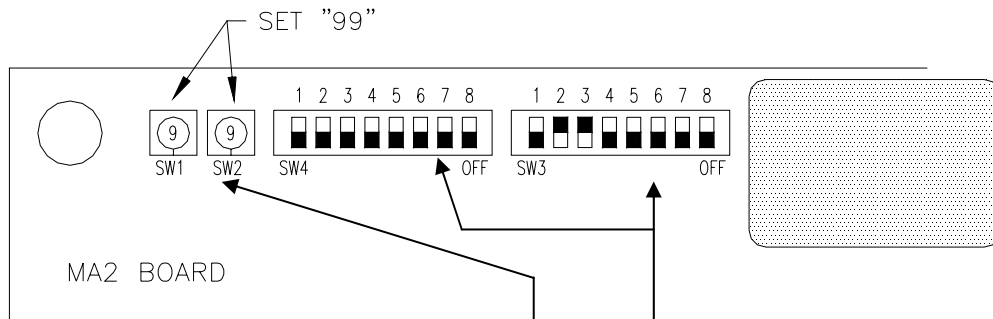


MA2 Board in the boiler control box.

NOTE: After you change the setting, turn SW3-7 to “ON” then turn SW3-8 to “ON” for one second and turn SW3-8 to “OFF”, then turn SW3-7 to “OFF” to initialize.

4.4 MTU-100 MA2 Setting and Initialization

Connect the modem to an analog phone line and set DIP-SW (SW3/SW4) on MA2 board in the MTU-100 unit as follow:



MA2 Board (Left) in the MTU-100

NOTE:

1. After you change the setting, turn SW3-7 to "ON" then turn SW3-8 to "ON" for one second and turn SW3-8 to "OFF", then turn SW3-7 to "OFF" to initialize.
2. Many offices and some homes have digital phone lines. The modem will be damaged if you use a digital phone line. Call your phone company if you are unsure which type of line you have.

NOTE: Test the telephone line to make sure it is a dedicated line!

1. The telephone line must be a dedicated, analog line. Never “Assume” it is. Connect a telephone to the phone jack and call 1-847-465-0001(Chicago office) or 1-519-758-8111(Canada) to make sure there is no “9” or code required to dial out. We can accommodate a “9”before the number, but we cannot accommodate a dial out code.
2. Make sure that setting and initializations are completely done in accordance with the previous instructions.

IMPORTANT

5 The Points of Communication Wiring

- 1) The designated communication cable must be used. If the cable is not the designated one, it can cause communication interference.
- 2) Ground the metal harness, to avoid the influence of noise from the metal harness.
- 3) Put end resistors in both ends of the network. If there is not an end resistor, reflection occurs at both ends of the network and will cause communication interference.
- 4) The shielded communication cable must be grounded on one side only. Do not ground both ends. A loop is produced between the shielded cable and the ground when the both ends of the cable are grounded, resulting in communication interference.
- 5) During installation never have the communication cable line. Try to keep AC lines as far away as possible in order to avoid noise.