DIGITAL WATT METER
Model : 1000 & 1500

User Manual

CONTENTS

1. Installation and Measurement

2.1 Installation

Connect the Watt meter to transmitter and load into 50 Ohm. Then, connect DC cable to DC IN (DC input requirement 15-24VDC)
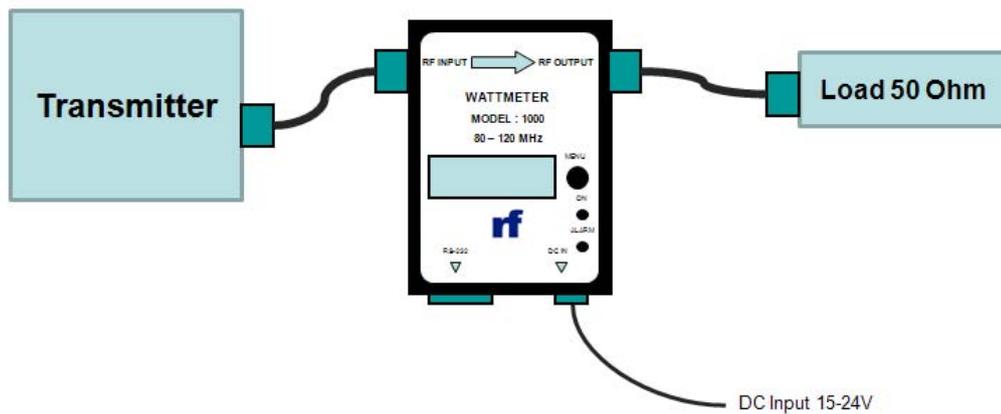
2.2 LCD display

When the transmitter and Watt Meter are turn on, the LED "ON" will illuminated and LCD display will show as following:

Fwd : 1000 W (The value of output from your transmitter delivery to load.)
Rfl :   10 W (The value of feedback from load to your transmitter.)
SWR : 1.2   (The value of ratio between forward and reflect your load.)

If you would like to change the menu display, You can push the MENU on Watt meter, and then the menu screen will be change the display as following:

Push MENU

```
┌─────────────────────────┐
│     Set VSWR Alarm      │
│         1:1.5           │
└─────────────────────────┘
```

Push MENU

```
┌─────────────────────────┐
│ F:■■■■■■■■■   x100       │
│ R:■           x10        │
└─────────────────────────┘
```

Push MENU

```
┌─────────────────────────┐
│ Fwd:   1000 W     SWR    │
│ R f l:   10 W     1 . 2  │
└─────────────────────────┘
```

2.3 Measurement
2.3.1 Forward power, Reflect power and SWR

```
┌─────────────────────────┐
│ Fwd:   1000 W     SWR    │
│ R f l:   10 W     1 . 2  │
└─────────────────────────┘
```

Fwd : 1000 W (The value of output from your transmitter delivery to load.)
Rfl :   10 W (The value of feedback from load to your transmitter.)
SWR :   1.2   (The value of ratio between forward and reflect your load.)

Accuracy of measurement: (refer from BIRD43 Thruline watt meter, Element 1000B)
- Forward (Fwd)   0 – 100 watt : Measurement accurate +- 20%
- Forward (Fwd)   100 – 500 watt : Measurement accurate +- 15%
- Forward (Fwd)   500 – 1500 watt : Measurement accurate +- 10%

- Reflect (Rfl)   0 – 100 watt : Measurement accurate +- 20%
- Reflect (Rfl))   100 – 500 watt : Measurement accurate +- 15%
- Reflect (Rfl)   500 – 1500 watt : Measurement accurate +- 10%

*** % of accurate depends on frequency ***

2.3.2 VSWR alarm

```
┌─────────────────────────┐
│     Set VSWR Alarm      │
│         1:1.5           │
└─────────────────────────┘
```

        You can set VSWR value by using the windows program setting on your computer (1:1.5 is from factory setting). The value on screen is means, whenever the value of SWR ratio between forward and

reflect with measure from your load more than the SWR setting. The LED ALARM on Watt meter will illuminate.

2. RS232 Interface

Connect the Watt meter to your computer via RS232 interface cable. The Interface will push into the Watt meter D-type connector, and then you can break out the other signals via push/snap terminals.

You can read value from Watt meter to your computer by using Hyper Terminal program. You can turn on the Watt meter and do by following step:

2.1 Click start >> All program >> Accessories >> Communications >> Hyper Terminal
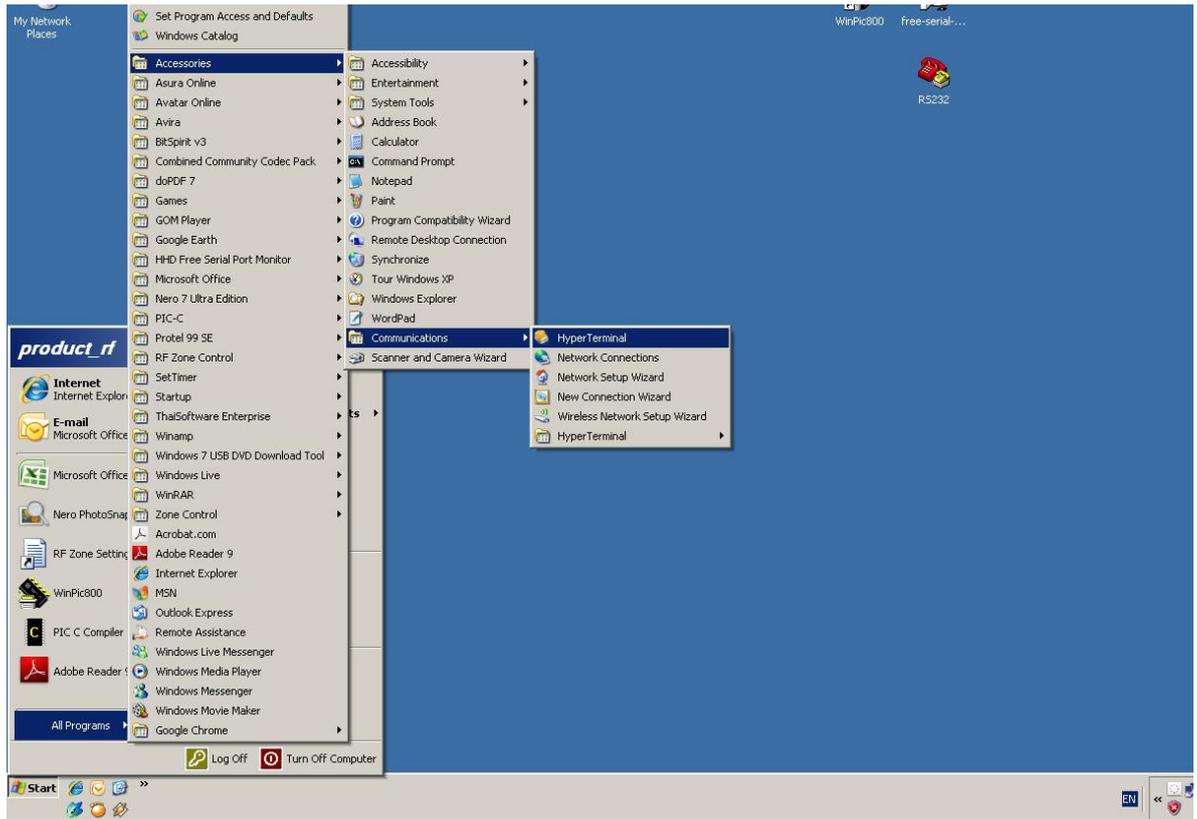
2.2 You can set Name: as you're requested. Then click OK
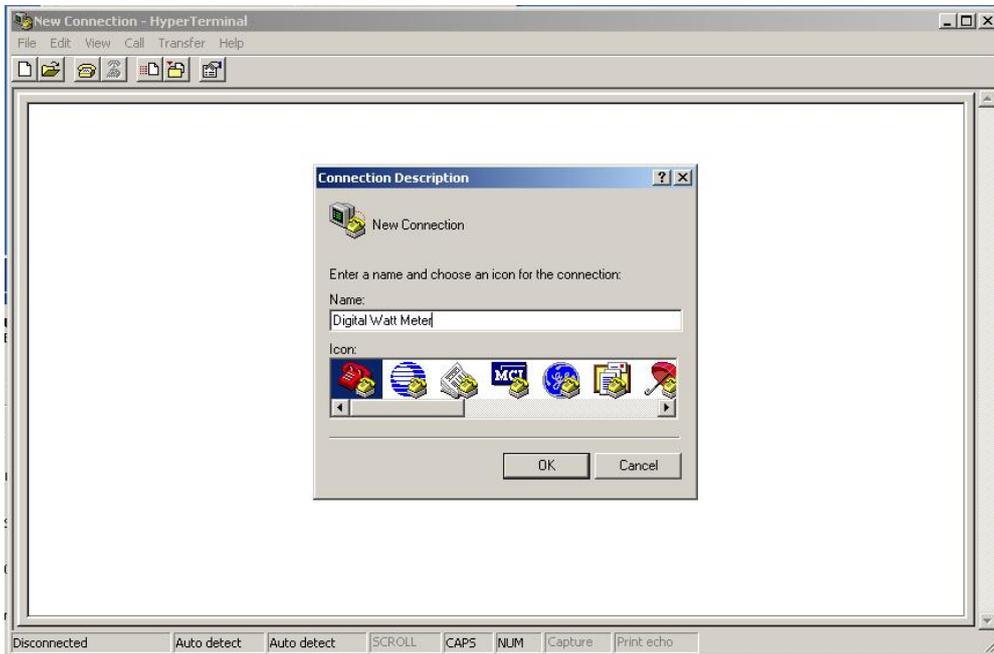
2.3 Set comports to use. Then click OK
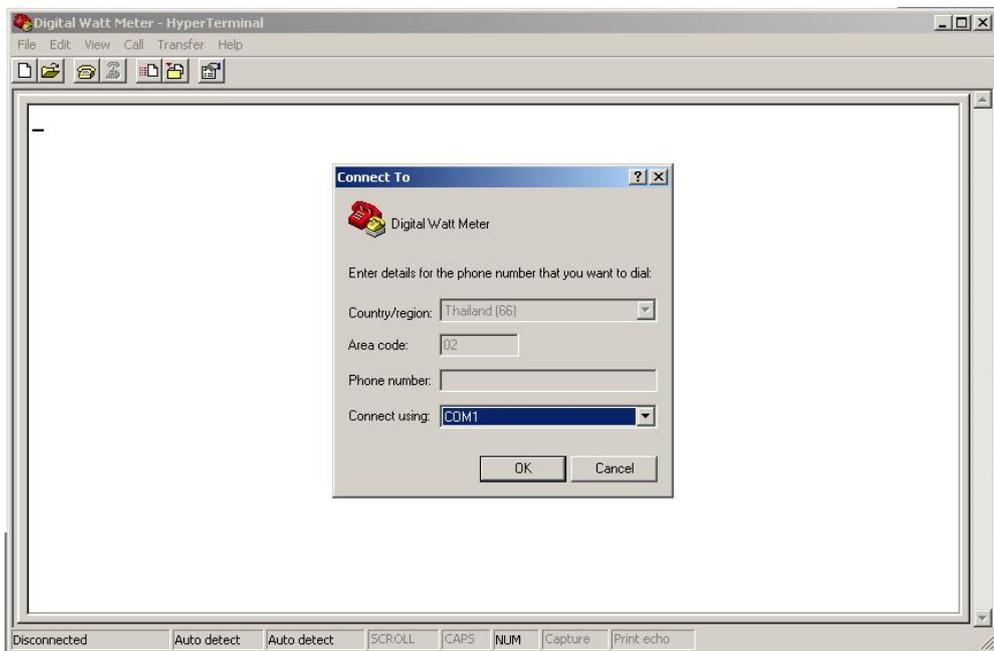
2.4 Set Bits per second to 9600 and Flow control to Xon/Xoff. Then click OK to completed set up.
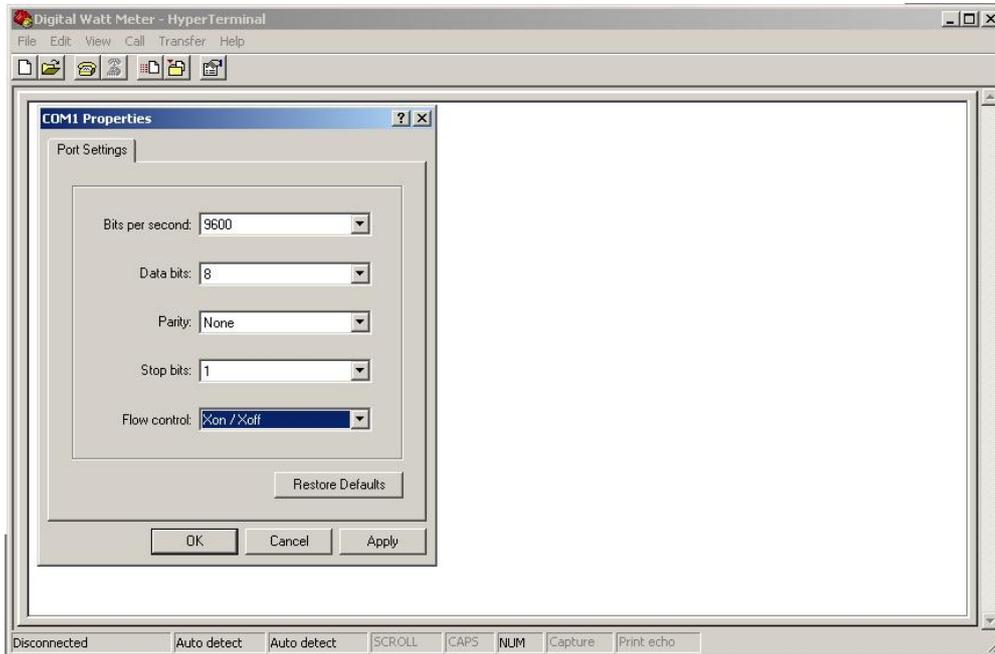
2.5 Then you can read value from Watt meter.
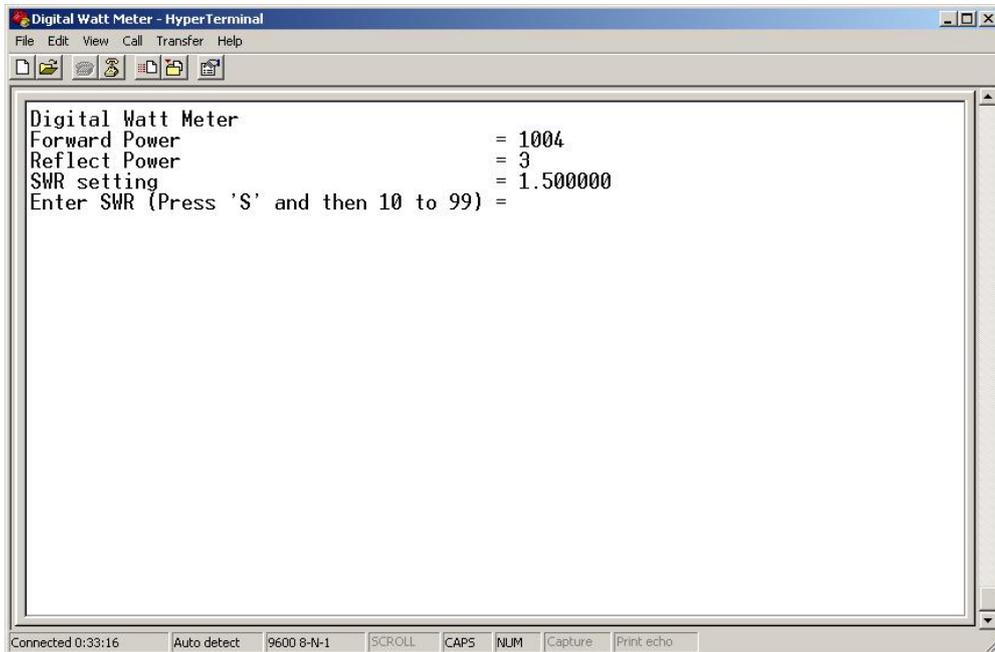
All value that showing on Hyper Terminal is the same on LCD display. If you would like to change SWR alarm value, you can change by your computer. After program is turn on and then the program will show you as below:

```
Digital Watt Meter
Forward Power                      = 1004
Reflect Power                      = 3
SWR setting                        = 1.500000
Enter SWR (Press 'S' and then 10 to 99) =
```
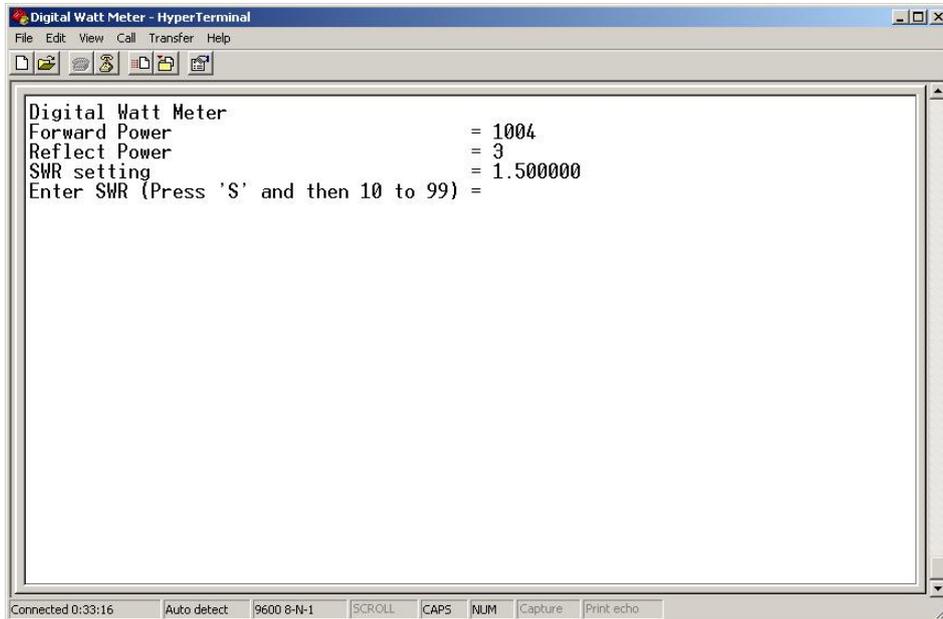
You can write "S" and value of SWR on keyboard. (SWR value range setting is 1.0 to 9.9)

```
Digital Watt Meter
Forward Power                      = 1004
Reflect Power                      = 2
SWR setting                        = 9.500000
Enter SWR (Press 'S' and then 10 to 99) = 15_
```
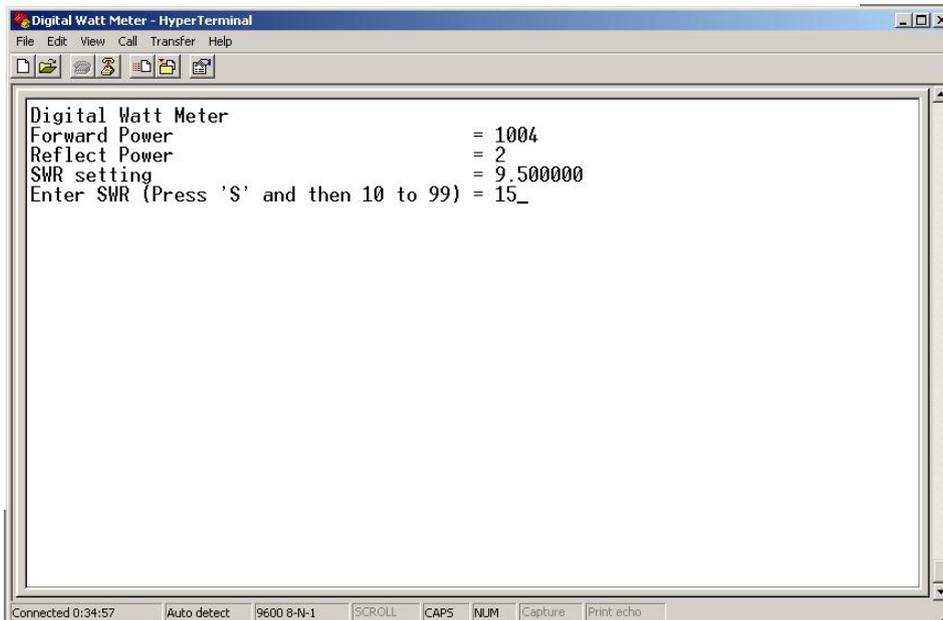
Example: You would like to set SWR alarm to 2.0, so you have to write '**S20**'
         You would like to set SWR alarm to 1.2, so you have to write '**S12**'
         You would to set SWR alarm to 1.5, so you have to write '**S15**'

The value will be saved into memory on MCU of Watt meter and automatically update both of Hyper Terminal program and LCD display.