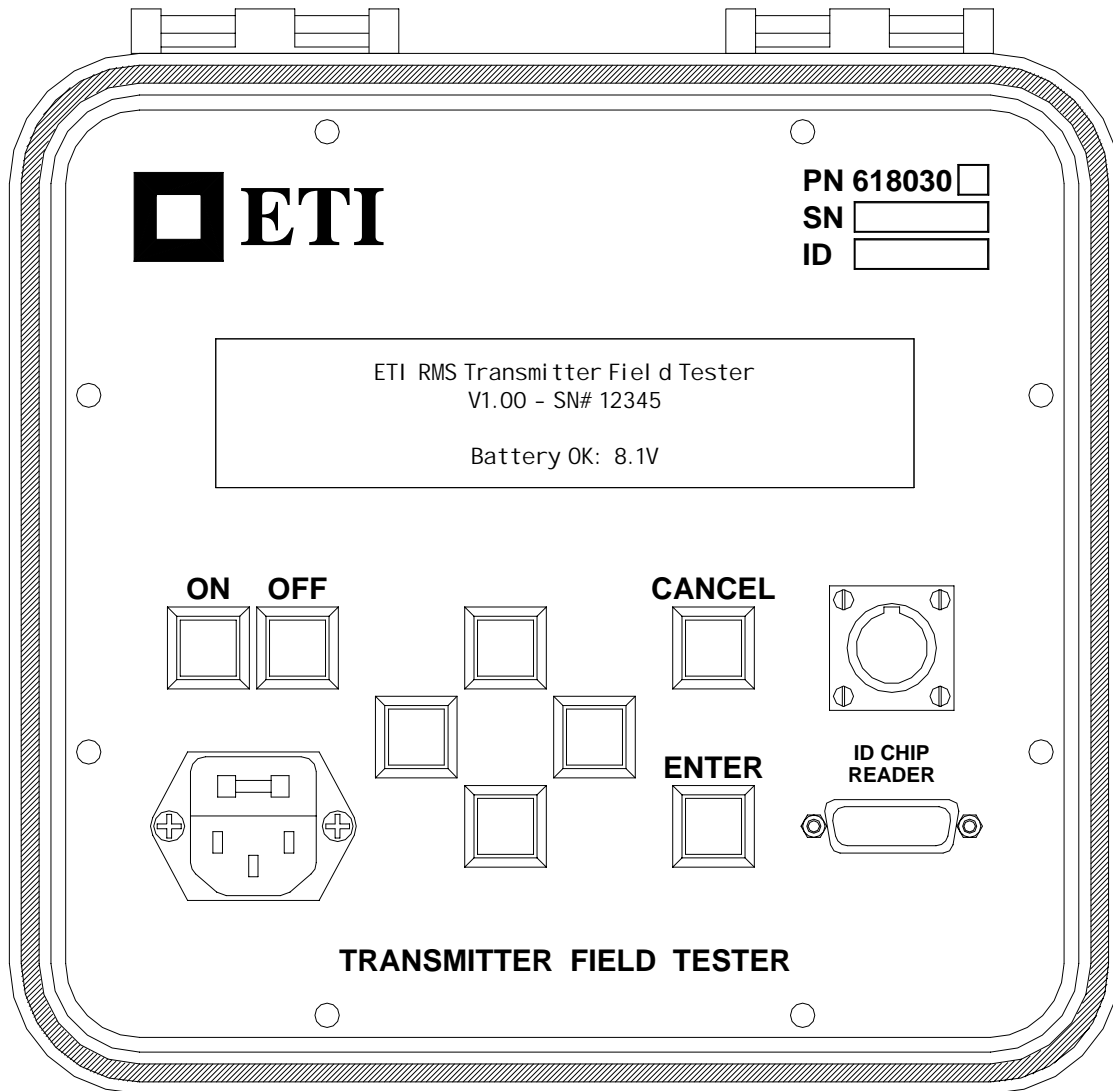


ETI MODEL 618030 TRANSMITTER FIELD TESTER

Instruction Manual



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REVISIONS

Revision	Date	Details
1	05/11/2005	Initial Revision

SAFETY PRECAUTIONS

WARNING

There are potentially dangerous/lethal voltages present near network protectors and associated equipment. Failure to follow the instructions in this manual could result in serious injury or death.

Standard safety practices should be followed at all times to prevent personal injury or equipment damage.

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Chapter 1

Overview

I. SCOPE

This specification describes the operation of the ETI Transmitter Field Tester Model 618030 (henceforth referred to as the “Tester”).

II. ABOUT THIS DOCUMENT

The various fonts used throughout this document have the following meanings:

- A. Text that appears on the Tester’s display is printed in typewriter font and enclosed in quotes. For example **“Enter ID To Wait For: 0000”**.
- B. Controls, such as buttons are shown in boldface, for example **CANCEL**.

III. GENERAL

- A. The Tester is used to determine whether the Transmitter under test is functional and to display the information that was transmitted.
- B. The Tester can run off of external AC power, or from its internal rechargeable battery.
- C. The Tester is capable of receiving data from the following (all henceforth referred to as transmitters):
 - a. ETI Remote Communication Modules
 - b. Hazeltine and BAE Units (both tube and box styles)
 - c. Digital Grid Transmitters

IV. SUPPLIED EQUIPMENT

The following accessories are included with the Tester:

- A. A copy of this manual
- B. Pickup probe
- C. AC power cable

V. DESCRIPTION OF THE TESTER

- A. The Tester is a portable unit provided with a removable cover in which associated cables and probe are stored. Figure 1 shows the main panel and the location of the various controls and operating parts.
- B. The following controls and indicators are referred to throughout this manual and are listed below in order to acquaint the operator of the Tester with their location and function.
 - 1. The pushbuttons are arranged as follows:
 - a. The two power buttons, **ON** and **OFF** are on the left hand side above the AC power connector.
 - b. The center four buttons are cursor keys (**UP**, **DOWN**, **LEFT**, **RIGHT**) used to select various functions of the unit.
 - c. There are two other buttons on the right hand side:
 - i. **ENTER** – This button is used to acknowledge a prompt from the Tester, effectively saying yes to any question it may be asking.

- ii. **CANCEL** – This button is used to cancel what the Tester is currently doing. If the Tester is asking you to acknowledge something, pressing **CANCEL** is how you say no.
- 2. The AC power connector is used to power the unit as well as recharge the Tester’s internal batteries.
- 3. The probe connector (the circular connector to the right of the cancel button) is used to attach the pickup probe to the Tester.
- 4. The **ID CHIP READER** (DB15) connector is used to read the ID Chip from a tube style transmitter.
- 5. The LCD display in the center of the Tester is 4 lines X 40 characters wide. It is used to display various information about the operation of the Tester and the transmitter under test.

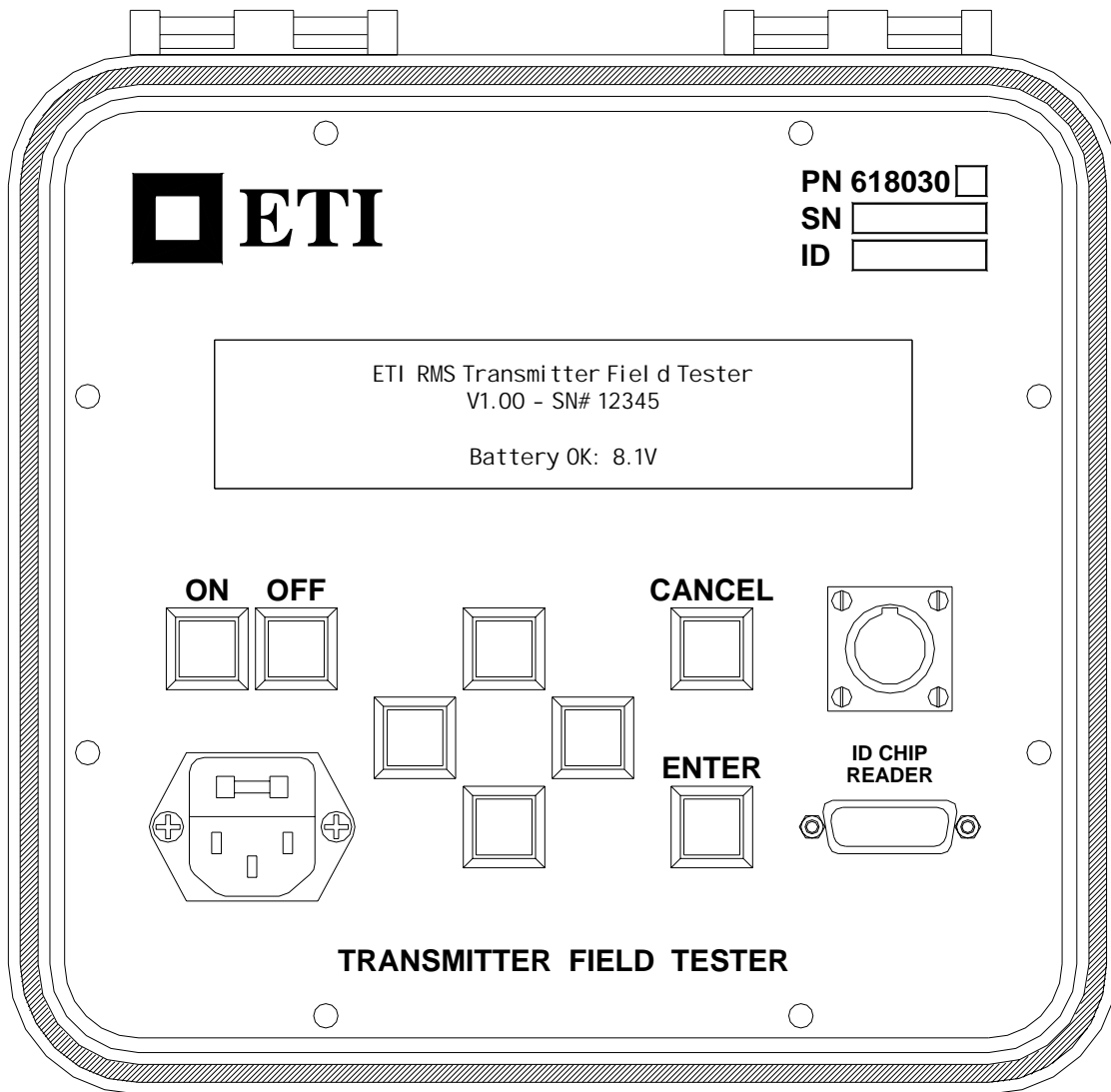


Figure 1: ETI Transmitter Field Tester Faceplate

Chapter 2

Setup/Connections

I. PRELIMINARY OPERATING PROCEDURE

- A. After opening the Tester, remove all the cables.
- B. Ensure device is plugged into AC power or batteries were recently charged.
- C. Attach the test probe to the probe port on the faceplate.
- D. Press the **ON** button to power up the unit.

II. DISCONNECTING INSTRUCTIONS

- A. Press the **OFF** button to turn off the box.
- B. Disconnect the probe and AC Power leads.
- C. Pack all the leads neatly into the Tester cover.

Chapter 3

Operating Procedures

I. BASIC OPERATION

- A. The Tester starts up at the primary data display shown in Figure 2. The Tester is now ready to receive data from a nearby transmitter.

```
READY - ID: 0000 - 0:09 - 0 of 0  
ID: 0000 FREQ: 0.0 FLAGS:  
V1: 0 V2: 0 V3: 0 ANA1: 0 S: 0%  
I1: 0 I2: 0 I3: 0 ANA2: 0 T: 0:00
```

Figure 2: Primary Data Display

- C. As soon as the data is received the Tester will beep and immediately display what was received as seen in Figure 3.

```
READY - ID: 0000 - 2:16 - 1 of 1  
ID: 0123 FREQ: 50.0 FLAGS: A C D F H M  
V1: 125 V2: 125 V3: 127 ANA1: 97 S: 97%  
I1: 105 I2: 98 I3: 102 ANA2: 62 T: 1:51
```

Figure 3: Primary Data Display (One Packet Received)

1. The first line indicates the following information about the status of the Tester:
 - a. The Tester is ready to receive data
 - b. The Tester is waiting for a Transmitter with an ID equal to 0 (any transmitter)
 - c. Two minutes and sixteen seconds has elapsed since the box started waiting for data
 - d. The first packet out of a total of one (1 of 1) is currently being displayed
2. The second, third and fourth lines contain the information received from a transmitter (NOTE: Not all of the following information will be available from all types of transmitters):
 - a. The ID of the transmitter (123)
 - b. The frequency of the received transmission (50.0 kHz)
 - c. The list of flags that are currently active (A, C, D, F, H, M)
 - d. The three phase voltages (125V, 125V, 127V)
 - e. The three phase current loadings in percent (105%, 98%, 102%)
 - f. The values of the two analog inputs (ANA1=97, ANA2=62)
 - g. The signal strength of the transmitter (97%) (NOTE: This value will vary significantly depending on the position of the probe relative to the transmitter)

- h. The time this particular packet of data was received (1:51) (NOTE: This value is relative to the time displayed in line 1)
- C. If another packet is received, the Tester will display the new data as shown in Figure 4.

```

READY - ID: 0000 - 4: 12 - 2 of 2
ID: 0123 FREQ: 50.0 FLAGS: A C EF HM
V1: 125 V2: 124 V3: 126 ANA1: 94 S: 92%
I 1: 102 I 2: 95 I 3: 106 ANA2: 60 T: 3: 27

```

Figure 4: Primary Data Display (Multiple Packets Received)

- 1. To cycle through all the received data packets, use the **UP** and **DOWN** cursor keys.
 - a. If you have scrolled to another packet, and another transmission is received, the Tester will beep, but continue to display the packet that has been selected. To quickly view the newest data received simply press the **ENTER** button.

II. ADVANCED OPERATION

To access the additional functionality of the unit, simply press **LEFT** or **RIGHT** from the Primary Data Display. This will cycle through the following menus (and back to the Primary Data Display).

A. Address Filter Setting (Figure 5)

This filter allows the Tester to receive data from only one unit, ignoring any nearby units that may also be received. An address of 0000 will receive data from any unit.

- 1. If an address filter was not set at power up (or you wish to change the one you did set), you can use this option to do it now. Press **ENTER** to access this function, and you will be taken to the filter setup screen shown in Figure 6.

```

Set Address Filter?
(This will also clear the buffer)

```

Figure 5: Address Filter Menu

```

Enter ID to Wait For: 0000

```

Figure 6: ID Entry Screen

- a. Use the **LEFT** and **RIGHT** cursor keys to select which of the four digits you wish to modify (The blinking cursor will move left and right).
- b. Use the **UP** and **DOWN** cursor keys to increment and decrement the selected digit.

- c. When you have set the value you desire, press **ENTER** to accept it.
 - d. If a mistake was made and you wish to discard any changes, press **CANCEL**.
2. Also note that setting the address filter will clear the Tester's buffer of previously received data.
- B. Contrast Adjustment (Figure 7)

This menu allows the operator to adjust the contrast of the display of optimum readability.

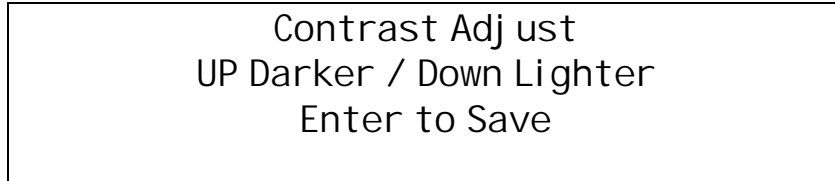


Figure 7: Contrast Adjust Menu

1. Press **UP** to make the display darker or **DOWN** to make it lighter.
 2. When the desired contrast is reached, press **ENTER** to save it.
 3. If you do not wish to save the changes, press **CANCEL**.
- C. Clear Buffer (Figure 8)
- This menu is used to clear the Tester's buffer of previously received data

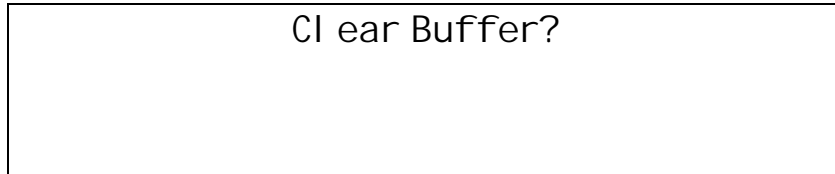


Figure 8: Clear Buffer Menu

1. Pressing **ENTER** at this screen will clear the buffer.
- D. Battery Information (Figure 9/10)

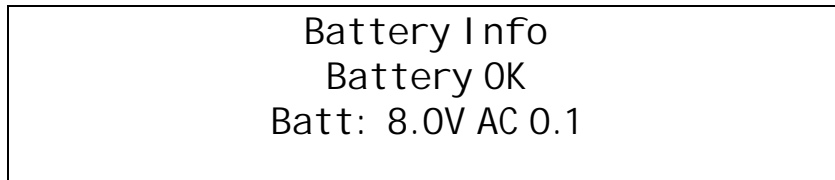


Figure 9: Battery Information Menu (unit running on battery)

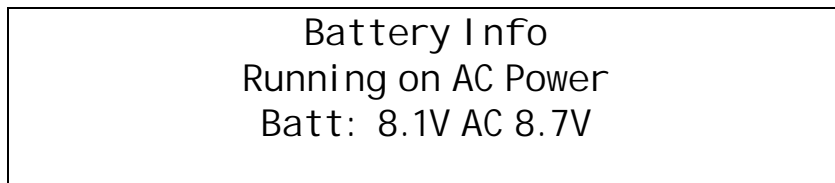
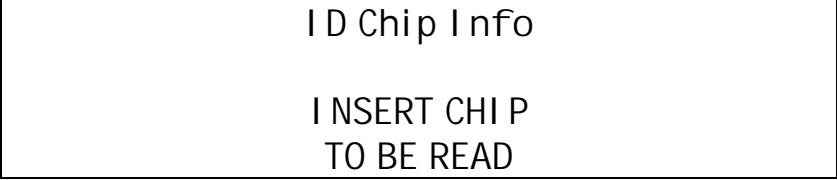


Figure 10: Battery Information Menu (unit running on AC power)

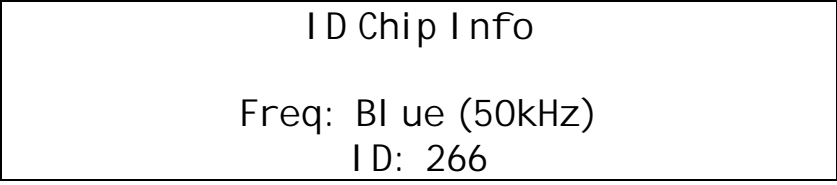
1. This menu displays information about the Tester's power supply
 - a. Line two will indicate that status of the battery (OK/LOW) or indicate that the device is running on AC power.
 - b. Line three will show the voltage from the battery and from the AC power supply.
- E. ID Chip Reader (Figure 11/12)
 1. This menu will either ask you to insert a chip to be read or provide you with the current status (frequency and ID) of an id chip placed in the ID CHIP READER socket on the Tester.



ID Chip Info

INSERT CHIP
TO BE READ

Figure 11: ID Chip Menu



ID Chip Info

Freq: Blue (50kHz)
ID: 266

Figure 12: ID Chip Information

Chapter 8

Troubleshooting

I. The Tester Fails to receive data from a transmitter

- A. Try placing the pickup probe closer to the transmitter under test.
- B. The transmitter may not be operational. Try a known good transmitter.

Appendix A

Specification Sheet

1. **INPUT VOLTAGE:** 125VAC \pm 10%, 60Hz
3. **TEMPERATURE RANGE:** -20°C to +50°C
4. **ENVIRONMENTAL:** The Field Tester is protected from damage caused by rain or high humidity. The Field Tester is not submersible.
5. **WEIGHT:** Approximately XX lbs
6. **SIZE:** 9 x 8 x 7 inches.