

**ENABLING TECHNOLOGIES LABORATORY
WAYNE STATE UNIVERSITY**

ETL COUNTER CONTROLLER VERSION 1.0

**INSTRUCTION SET
v.2**

JUNE 1997

ENABLING TECHNOLOGIES LABORATORY WAYNE STATE UNIVERSITY

ETL COUNTER CONTROLLER VERSION 1.0

Introduction

The ETL Counter Controller was designed to assist users with various counting tasks. The device is capable of counting in two modes: the *batch mode* and the *free running mode*. In the batch mode, staff members may set a counting goal for the users. When that counting goal is achieved, the counting process will halt. In the free-running mode, the Counter Controller keeps a running tally of items counted without stopping.

Switches or SUNX FX-7 Sensors are used to record the items being counted, and, as the items are counted, a tally (up to 9,999) is kept on the controller's display.

Voice output devices, conveyors, as well as turntables may be incorporated into each counting session.

With these directions, the user of the ETL Counter Controller will learn to:

- Setup the controller correctly and safely
- Program the desired values
- Run the program

Equipment

ETL Counter Controller	Voice Output Device (Optional)
12-V AC Adapter	Conveyor (Optional)
Switch/ SUNX FX-7 Sensor	Turntable (Optional)

! CAUTION ! Unplug the power supply before connecting or disconnecting the sensor.
Refer to your sensor's owner's guide for further safety details.

ETL COUNTER CONTROLLER VERSION 1.0

TABLE OF CONTENTS

Setup Procedures.....	4
Connecting the Switch/Sensor/Conveyor Input.....	4
Connecting the Voice Output Device.....	5
Connecting the Power Source.....	5
Using the ETL Counter Controller.....	6
Programming Your Values.....	6
Running the Program.....	7
References.....	10

SETUP PROCEDURES: ETL COUNTER CONTROLLER

MATERIALS:

ETL Counter Controller
12-V AC Adapter
Switch/ SUNX Sensor

Voice Output Device (optional)
Conveyor (optional)
ETL Indexing Turntable (optional)

Connecting the Switch/Sensor/Conveyor Input

1. If a switch is used, attach the switch plug to the **SWITCH** jack on the back of the Counter/Controller (Figure 1).
2. If a **SUNX FX-7 Sensor** is used, attach the sensor plug to the 4-pin jack on the right side of the Counter/Controller (Figure 2).

! CAUTION ! Unplug the power supply before connecting or disconnecting the sensor. Refer to your sensor's owner's guide for further setup and safety details.

3. If a conveyor is used, attach the conveyor control jack to the **LATCH** jack on the back of the Counter/Controller.

! CAUTION ! Be sure that nothing is plugged into the **RESET** jack unless you want to reset the count. If the reset jack receives a pulse from any source, it will reset the count.

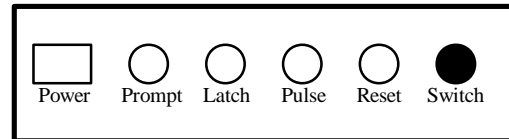


Figure 1

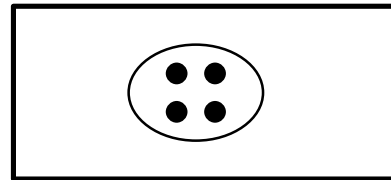


Figure 2

Connecting the Switch-Activated Output Devices

1. The **PROMPT** jack on the back of the Counter/Controller will provide switch closures at time intervals established by the user (see Page 3). If a timed prompt from a voice output device or other switch-activated source is needed for the counting session, attach the appropriate device to the **PROMPT** jack (Figure 3).
2. The **PULSE** jack provides an end-of-count switch closure for a voice command, a turntable advancement, or other switch-activated prompt. If an end-of-count pulse is desired, connect the appropriate device to the **PULSE** jack (Figure 4).

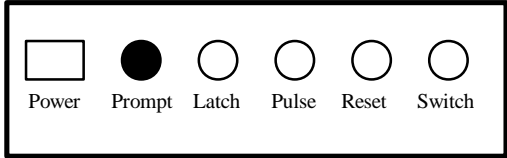


Figure 3

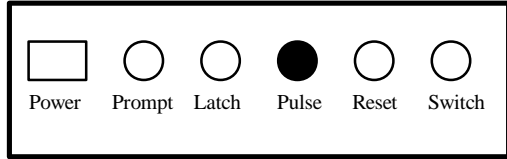


Figure 4

Connecting the Power Source

1. When all of the necessary connections have been made, attach the **12-V AC** adapter to the **POWER** jack on the side of the Counter/Controller, then plug the adapter into a wall outlet (Figure 6).

NOTE: The Counter/Controller does not have a separate on/off switch. The machine will turn on as soon as the power supply has been activated.

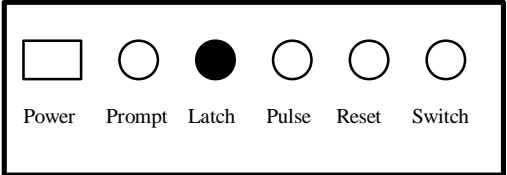


Figure 5

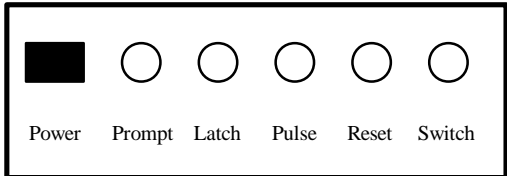


Figure 6

USING THE ETL COUNTER CONTROLLER

! CAUTION ! Before running the ETL Counter Controller, follow the setup instructions as listed on pages 1-2.

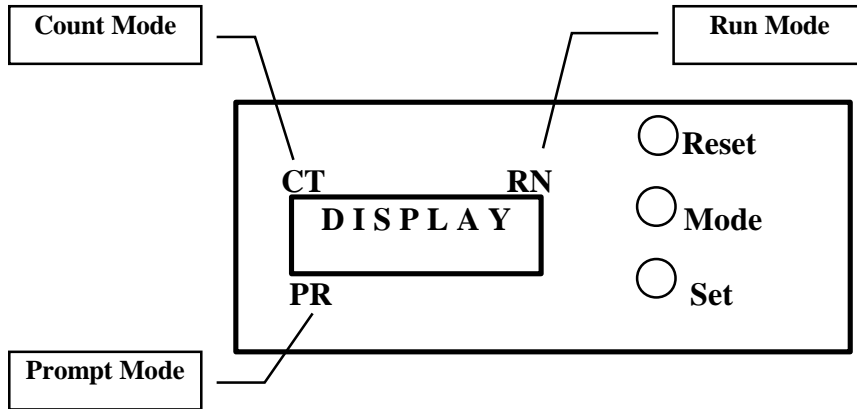


Figure 1: ETL Counter/Controller

Programming Your Values

NOTE: Refer to Figure 1 for the definitions of abbreviated terms.

1. To set a counting goal, hit **MODE** until the red dot is in the upper left corner under **CT**. The screen will display the word **OFF** (Figure 2).
2. Hit **SET** until the desired goal, up to 9999, has been reached. If you pass the desired numerical goal, hit **RESET** to start the **COUNT** programming process over again.

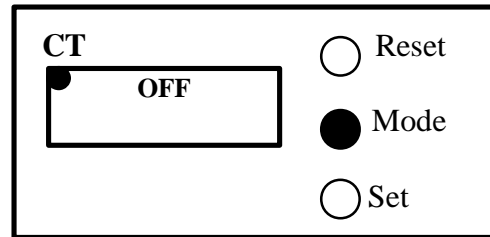


Figure 2

NOTE: If a counting goal is not desired, leave the **CT** setting at **OFF**. When the **CT** is **OFF**, all outputs aside from the numeric counting display are disabled.

3. To set a timed prompt, hit **MODE** until the red dot is in the lower left corner above the **PR**. The

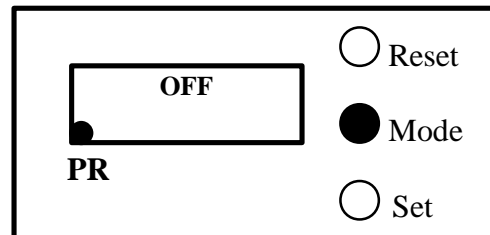


Figure 3

screen will display the word **OFF** (Figure 3).

4. Hit the **SET** button until the desired delay time before a prompt activates has been established. If you pass the desired numerical goal, hit **RESET** to start the **PROMPT** programming process over again.

NOTE: If a timed prompt is not desired, leave the **PR** setting at **OFF**.

Running the Program

NOTE: The values programmed for the CT and PR modes will be saved throughout the RN mode. However, if MODE is selected again and the user returns to the CT and PR setup menus, the previous values will be erased from the memory and the user will need to re-program the desired values.

1. When satisfied with the selected values, hit **MODE** until the red dot is in the upper right corner under **RN**.

NOTE: While in **RN** mode, the user can identify which other modes are in use by noticing the red dots. Red dots next to the **CT** and **PR** modes indicate that those modes are being activated.

2. Each time that the switch is activated or the sensor detects an item, it will be tallied on the counter's display.
3. If a timed prompt was set for the counting session and there is no

activity by the user within the amount of time set in the **PT** mode, the **PROMPT** jack will provide a one-second switch closure. This switch closure will support a prompt from a switch-activated device, such as a CheapTalk or Lynx.

4. If a counting goal was set for the session, the display will blink when the goal has been achieved. Also, if an end-of-count **PULSE** was set for the counting session, the pulse jack will provide a switch closure when the goal has been achieved. This switch closure may be used to support a prompt from a voice output device, advance a turntable, or operate another type of switch-activated device.
5. If a *conveyor* was used in the counting session, the LATCH jack will provide a one-second switch opening when the goal of the counting session has been reached. This switch opening will halt the conveyor. When the count is RESET, the switch will close again, allowing the conveyor to run.

NOTE: The conveyor will *not* operate unless a counting goal has been established.

6. To restart the counting session using the same values, hit the **RESET** button on the front of the controller (Figure 4).

NOTE: You may also reset the count to zero by moving the switch plug from the **SWITCH** jack to the **RESET** jack and clicking the switch once (Figure 5).

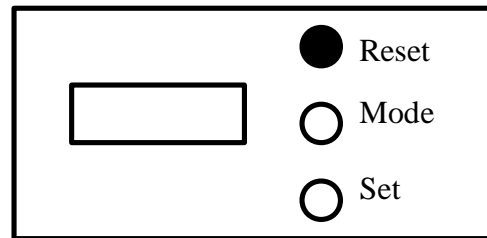


Figure 4

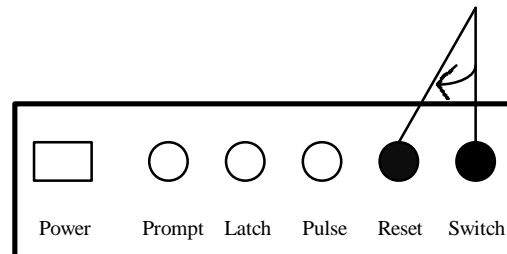


Figure 5

! **CAUTION** ! Be sure that nothing is plugged into the **RESET** jack unless you want to reset the count. If the reset jack receives a switch closure from any source, it will reset the count.

ETL COUNTER CONTROLLER VERSION 1.0

REFERENCE GUIDE

If you have any questions or concerns regarding your ETL Counter Controller, contact David Sant or Robert Erlandson at Wayne State University's **Enabling Technologies Laboratory** at (313) 577-1791. For questions regarding these instructions, contact Kristine Bradow at the same number.