

Section 3

Operating the Track Display Board using the NCE POWER PRO

In this section, we will demonstrate how to operate the Track Display Board using the NCE POWER PRO. You will need two LEDs attached to Output #1 of the Track Display Board. (*Please refer to the **Quick Start Guide** for installing the two LEDs before you proceed.*)

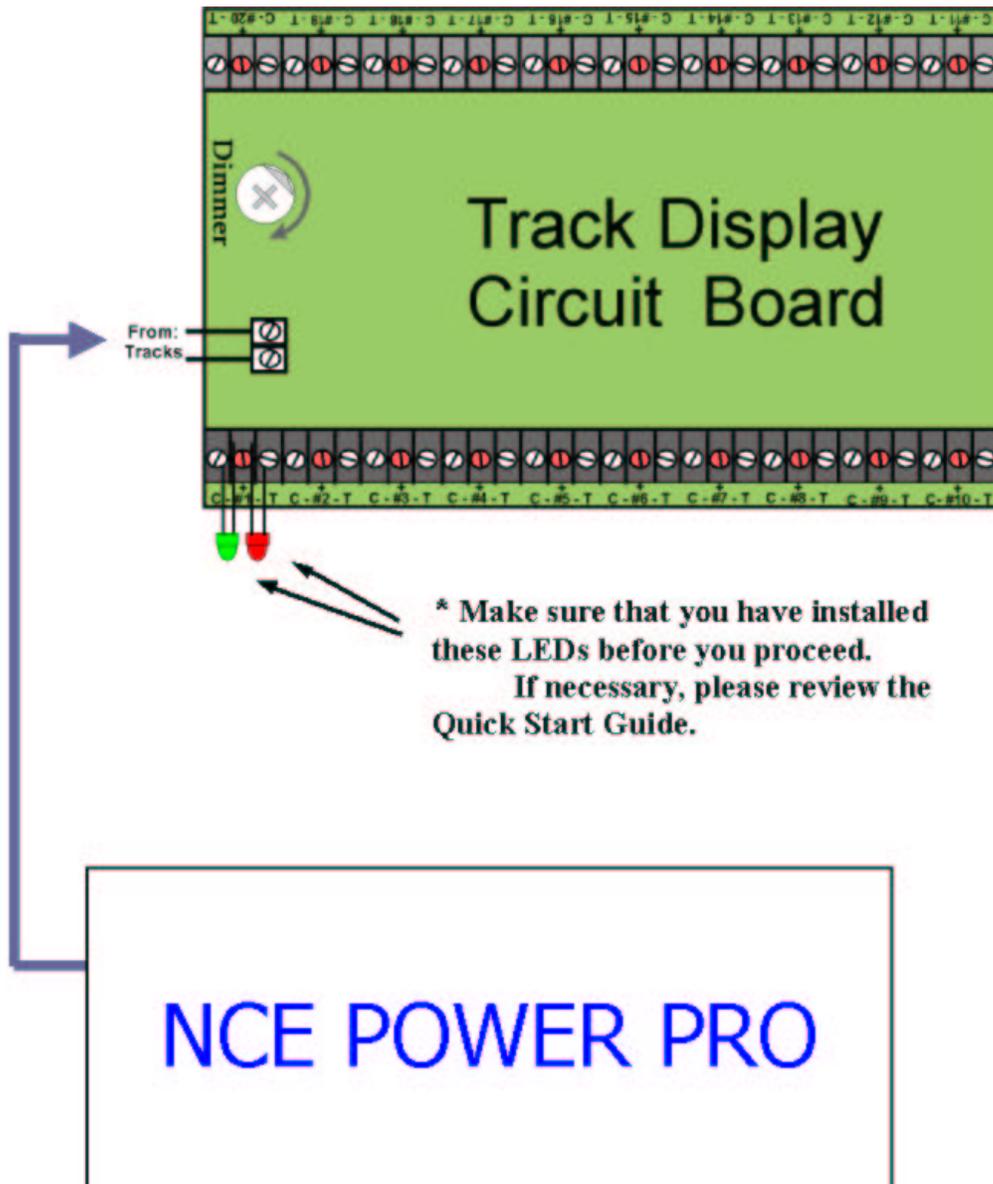


Figure 3-1 shows the front panel of the NCE 5-AMP POWER PRO station.



Figure 3-1

Connect one end of the 12" four-wire black cable to the CONTROL BUS jack on the right side of the unit and the other end to one of the CONTROL BUS jacks on the left side of the unit as shown in Figure 3-2.

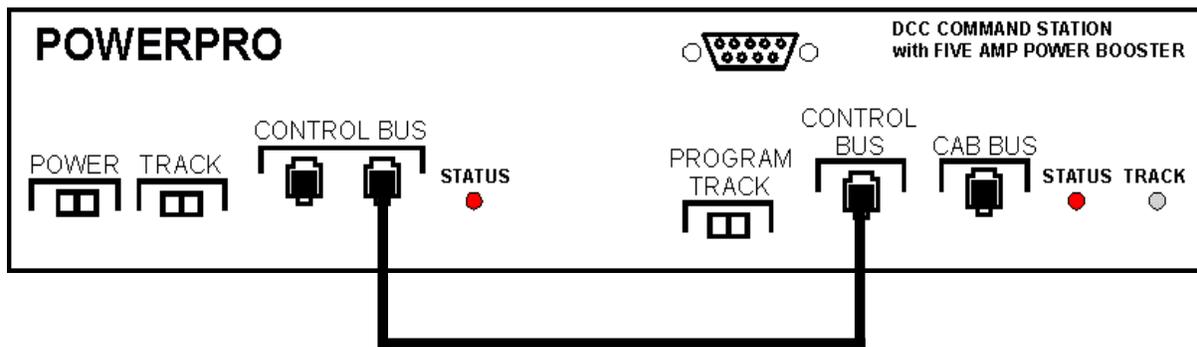


Figure3- 2

Next, attach one end of the seven-foot coiled cable to the ProCab and the other end to the CAB BUS jack as shown in Figure 3-3.

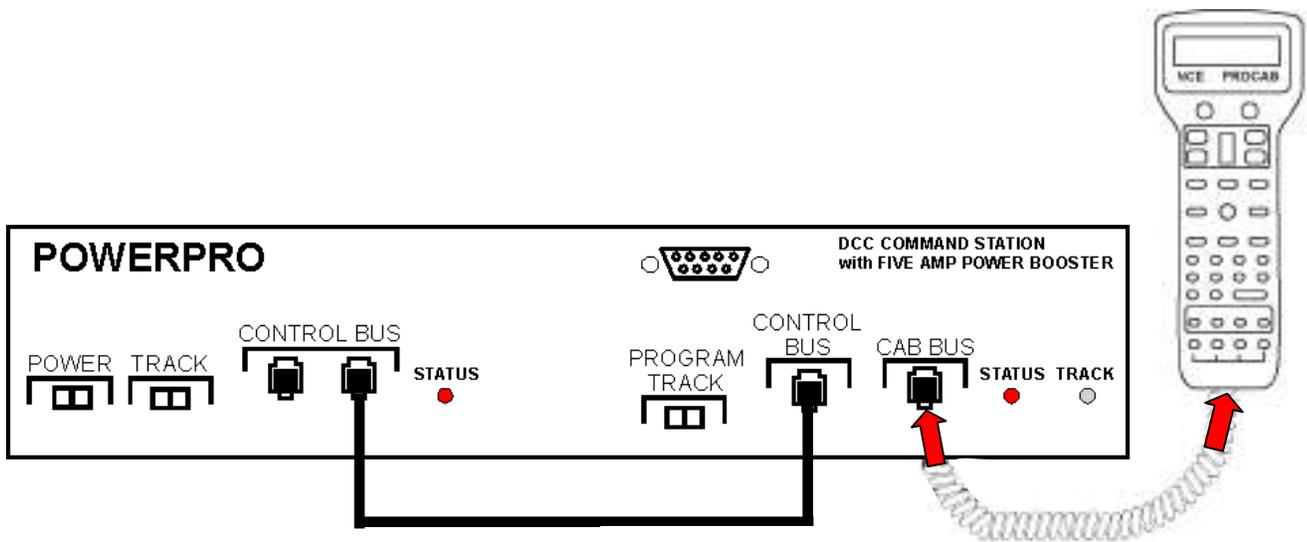


Figure 3-3

Now attach two wires from the TRACK connections of the POWERPRO to the two terminals marked “**From Tracks**” of the Track Display Board as shown in Figure 3-4.

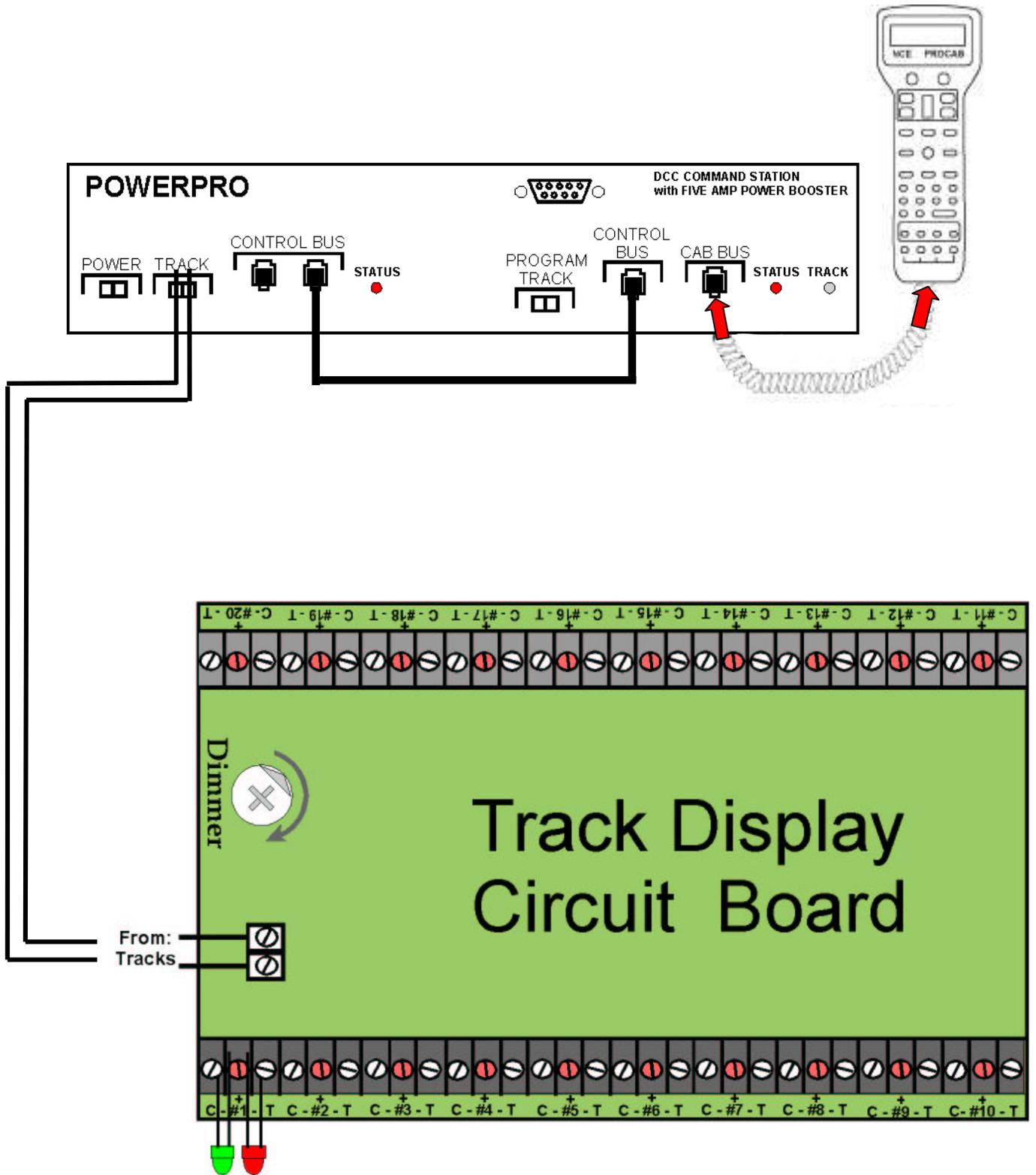


Figure 3-4

Now attach the POWERPRO power supply to the two POWER leads of the POWERPRO as shown in Figure 3-5. Double check all connections and then turn on the power supply.

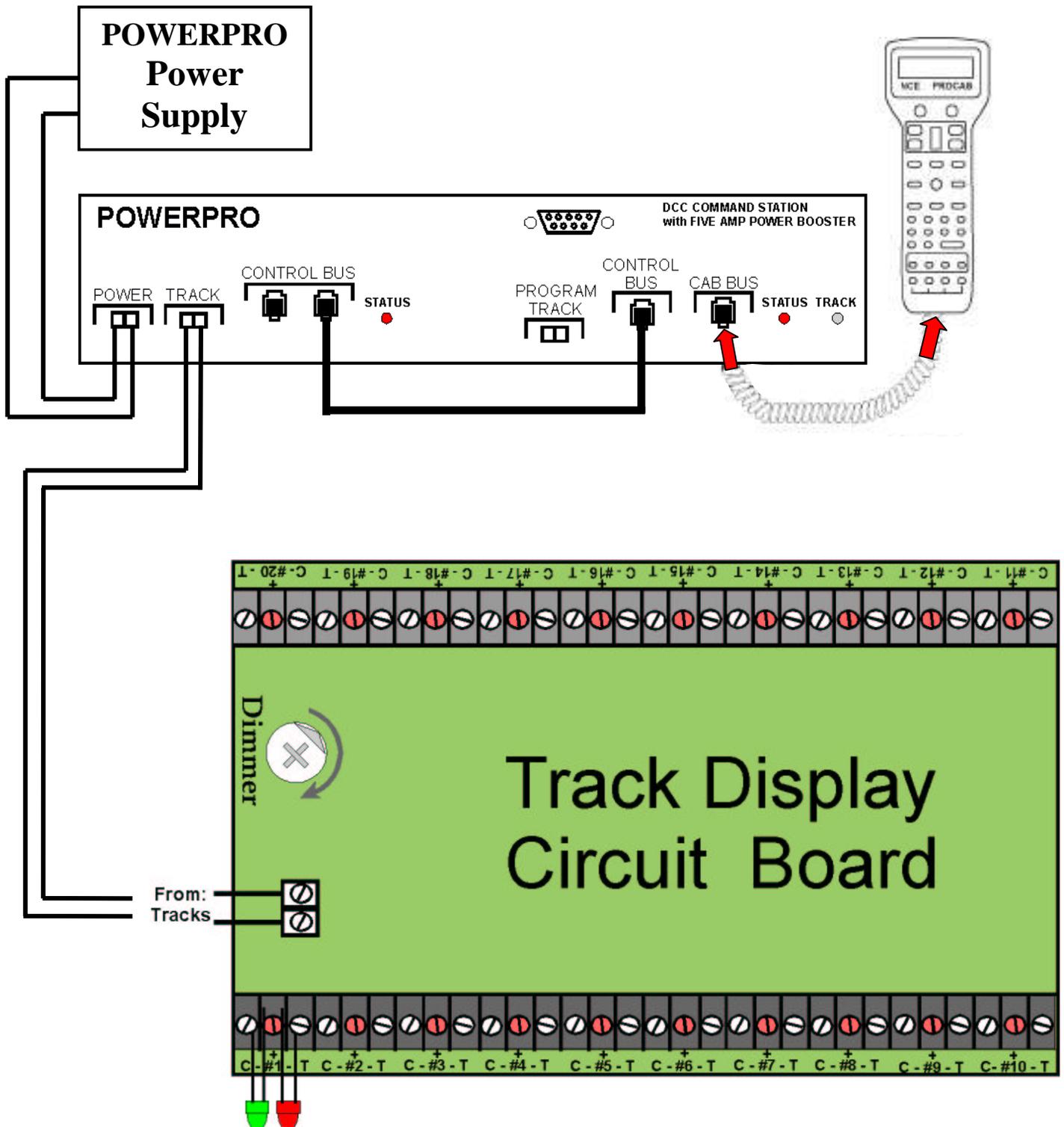


Figure 3-5

With power applied, the display should read something like this:

```
LOC: 000 03:34AM
FWD: 000 -----
```

At this point, one of the LEDs attached to Output #1 of the Track Display Board should be on, but not both. If this is not the case, check the connection between the TRACK output of the POWERPRO and the Track Display Board.

In the following discussion, when the Green LED is on, the switch machine on the mainline is in the “Closed” position. When the Red LED is on, the switch machine is in the “Thrown” position.

Let’s “Throw” the Switch

If the Green LED is now ON, then the switch is in the “Closed” position. Follow these steps ONLY if the Green LED is on. (If the Red LED is on, then skip to **Let’s “Close” the Switch.**)

The following instructions will send a “Throw” switch #1 command to the Track Display Board:

This screen is the starting point:

```
LOC: 000 03:34AM
FWD: 000 -----
```

Press the

**SELECT
ACCY**

key. The display should show something like this:

```
CONTROL 03:34AM
ACC NUMBER: 001
```

**If the display shows 001, then continue with the next step.
If the display shows anything else, then press the “1” key.**

With “1” showing as the ACC NUMBER, press the **ENTER** key.
The display should now show:

```
ACC: 001 03:34AM
1=N(ON) 2=R(OFF)
```

We will now send a “Throw” command. This will turn off the Green LED and turn on the Red LED.

Press the **“2”** key now while keeping your eyes on the LEDs.

If all went well, the Green LED is off and the Red LED is on.

Let’s “Close” the Switch

If the Red LED is now ON, then the switch is in the “Thrown” position. Follow these steps ONLY if the Red LED is on. (If the Green LED is on, then go back to **Let’s “Throw” the Switch.**)

The following instructions will send a “Close” switch #1 command to the Track Display Board:

This screen is the starting point:

```
LOC: 000 03:34AM
FWD: 000 -----
```

Press the **SELECT ACCY** key. The display should show something like this:

```
CONTROL 03:34AM
ACC NUMBER: 001
```

**If the display shows 001, then continue with the next step.
If the display shows anything else, then press the “1” key.**

With “1” showing as the ACC NUMBER, press the **ENTER** key.
The display should now show:

```
ACC: 001 03:34AM
1=N(ON) 2=R(OFF)
```

We will now send a “Close” command. This will turn off the Red LED and turn on the Green LED.

Press the **“1”** key now while keeping your eyes on the LEDs.

If all went well, the Red LED is off and the Green LED is on.

Built-in Self Test

The Track Display Board incorporates a built-in self-test. The self-test is initiated by sending either a “Close” or “Throw” command to Switch #99. When the self-test is initiated, all the outputs on the Track Display Board go active, lighting all the LEDs for 5 seconds. Following this, all the outputs go inactive, turning off the LEDs for 3 seconds. This tests all the LEDs for functionality. It also serves as a test for short circuits that could keep an LED on all of the time.

To initiate the self-test, follow these instructions:

This screen is the starting point:

```
LOC: 000 03:34AM
FWD: 000 -----
```

Press the **SELECT ACCY** key. The display should show something like this:

```
CONTROL 03:34AM
ACC NUMBER: 001
```

