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Using the Outback Mate with Outback MX & FM Charge Controllers

Introduction: Outback Power Systems provides a system monitor (called a Mate) that connects to Outback equipment for monitoring and control. The usual configuration is for the equipment connected to include one or more FX inverters. There are occasions when an FX inverter is not available. In such cases, the Mate can be connected directly to one or more FM or MX charge controllers directly or through a device called a Hub.

This latter scenario allows the user to monitor battery voltage and PV charge remotely. This scenario is not covered in any Outback manuals and this paper explains the use of the Mate in this situation.

Control layout: Figure 1 shows the Mate control and indicates the 6 buttons and the display screen that are located on the Mate. The dedicated AC and Inverter buttons have no function in an installation without an FX inverter. The four other keys, found in a row beneath the screen are known as "soft" buttons. Their function is identified by words displayed directly above them on the lowest row of the display screen.

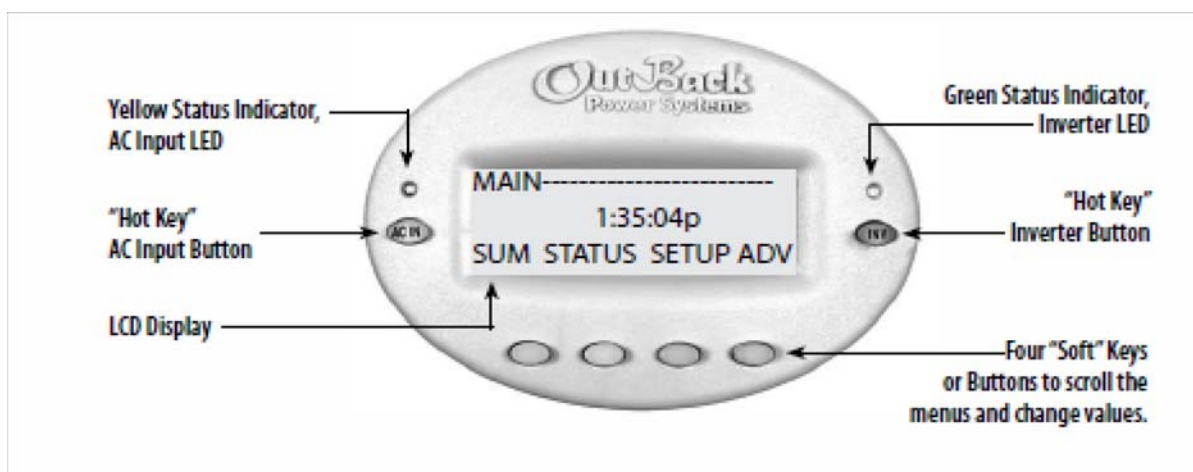


Figure 1

Continued

The Mate has a Main screen. This is the screen display from which all subsequent screens are found. To go to the home screen, there are two possible key actions: Press the left soft key. If the word "Main" is not displayed on the top line, press both left keys simultaneously.

Main screen:

Figure 1 depicts the Main screen. Along the bottom line are the words Sum, Status, Setup and Adv. Pressing the left most soft button selects the Sum or Summary screen.

Summary screen:

Figure 2 depicts the Summary screen. This screen provides the most important information required for an off-grid PV system: Battery voltage and charge rate. Figure 2 shows xxx to show where values will be displayed. The line 1 says "CC totals". Line 2 indicates the battery voltage. Line 3 is the output amps kilowatts and line 4 shows the accumulated charge for the day. To exit this screen, press the left soft key.

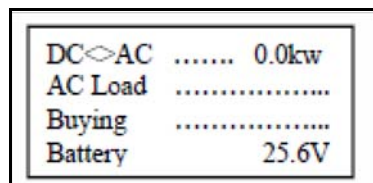


Figure 2

This concludes the instructions for the Summary readings function of the Mate.

Status:

It is possible to review relevant information for individual charge controllers. Start from the Main screen. Press the soft buttons in this order:

Press

Button	See
Status	Choose device
CC	Choose category
Meter	Figure 3

If there are more than 1 charge controllers a hub is required, the Port 00 will be 01 or higher and be associated with the port number of the hub into which the charge controller data cable is plugged into. Pressing the soft Port button will cycle the display through all of the available charge controllers.

```
Mode: xxxx      P00
PV   xx v batt xx v
In   xx a Out  xx a
DOWN STATUS PORT
```

Figure 3

There may be other features available on the Mate, but they are beyond the scope of this manual. Experimentation will be your guide.

End of manual