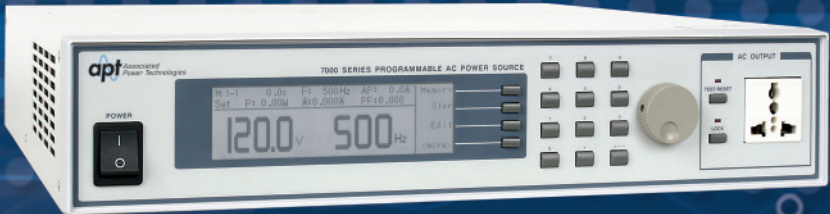


# QUICKSTARTGUIDE



**For the following models:**  
7004, 7008, 7016, 7040

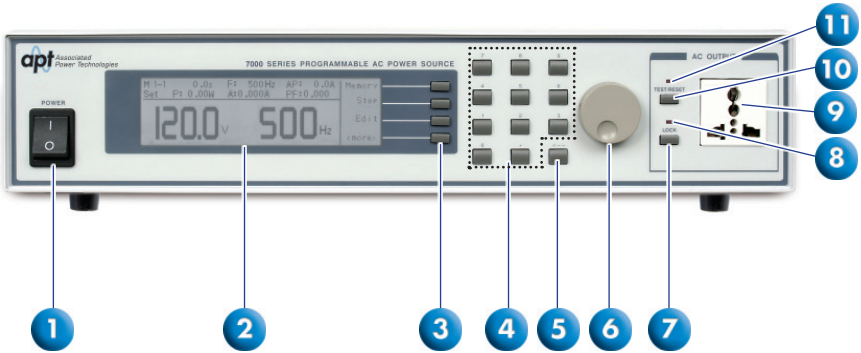
## SAFETYCHECKLIST

- KEEP** unqualified/unauthorized personnel away from test area
- ARRANGE** test stations in a safe and orderly manner
- NEVER** touch products or connections during a test
- STOP** the test first in the event of a problem
- BE SURE** to use the appropriate AWG for your input and output cabling
- TURN OFF** the output when making any connections to the load



**WARNING:** THIS GUIDE WAS CREATED FOR OPERATORS HAVING SOME FAMILIARITY WITH AC POWER SOURCES AND HIGH VOLTAGE/HIGH CURRENT TESTING APPLICATIONS. AN AC POWER SOURCE PRODUCES VOLTAGES AND CURRENTS THAT CAN CAUSE HARMFUL OR FATAL ELECTRIC SHOCK. TO PREVENT ACCIDENTAL INJURY OR DEATH, THESE SAFETY PROCEDURES MUST BE STRICTLY OBSERVED WHEN HANDLING AND USING AN AC POWER SOURCE.

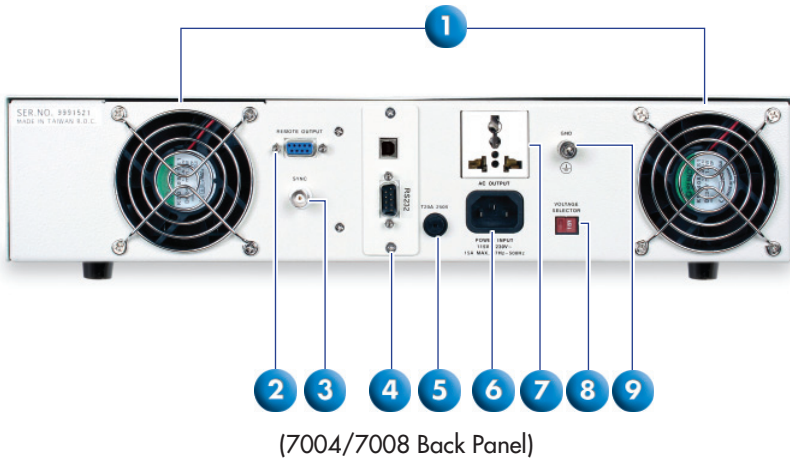
# FRONTPANELCONTROLS



- 1. POWER SWITCH:** Rocker style power switch with international ON ( I ) and OFF ( 0 ) markings.
- 2. GRAPHIC LCD:** 240 x 64 Monographic LCD.
- 3. SOFT KEYS:** Multifunctional keys used to select parameters, select screens, and edit parameters.
- 4. NUMERIC KEYPAD:** Keys used to enter numeric data.
- 5. DELETE KEY:** Used to delete text characters and numeric data.
- 6. ROTARY KNOB:** Used to adjust the voltage/frequency output in MANUAL Mode.
- 7. LOCK KEY:** Used to lock out the front panel.
- 8. LOCK LED:** When lit, this LED indicates that the instrument's front panel is locked.
- 9. UNIVERSAL AC OUTPUT SOCKET:** 300 VAC max voltage and 20 A max current. (Not available on the 7040 model.)
- 10. TEST/RESET KEY:** Used to turn ON/OFF output voltage, or used to reset the instrument in the event of a failure condition.
- 11. TEST/RESET LED:** When lit, this LED indicates output is active, or when blinking indicates the instrument is in a failure condition.

NOTE: Voltage Output Adaptor: The universal output receptacle located on the front/rear panel of models 7004, 7008 and 7016 does not support connection to a Shuko style plug. In order to accommodate customers that require a Shuko plug, APT provides a mating plug that may be used to create a custom test fixture for Shuko-terminated line cords.

# BACKPANELCONTROLS



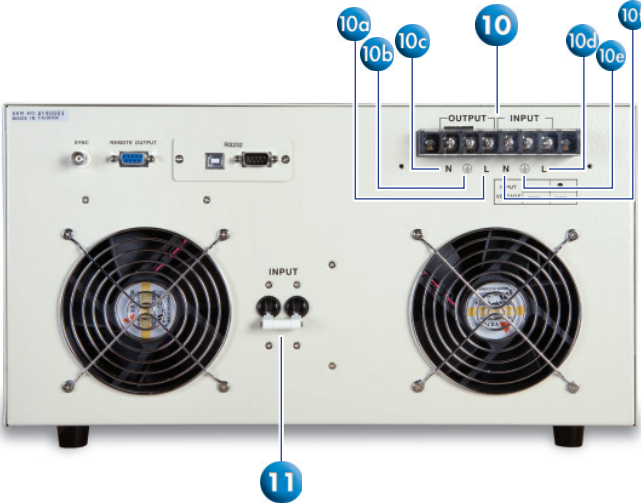
- 1. THERMAL FANS:** Used to cool the instrument.
- 2. REMOTE OUTPUT CONNECTOR:** Provides output to monitor PASS, FAIL, Test-In-Process via relay contact closures.
- 3. SYNC OUTPUT CONNECTOR:** Provides the capability to monitor a 5 VDC output signal.
- 4. USB/RS-232 INTERFACE CARD:** Interface card used to control, program, and capture data via a serial interface.
- 5. FUSE RECEPTACLE:** Fuse rating is 10 A at 250 V for the 7004 model and 15 A at 250 V for the 7008 & 7016 models. To change the fuse, unplug the power (mains) cord and turn the fuse cap counter clockwise to remove fuse. The fuse compartment will be exposed. Please replace the fuse with one of the proper rating.
- 6. INPUT POWER RECEPTACLE:** Standard IEC 320 connector for connection to a standard NEMA style line power (mains) cord.
- 7. UNIVERSAL AC OUTPUT SOCKET:** 300 VAC max voltage & 20 A max current. Not available on the 7040 model.
- 8. INPUT POWER RECEPTACLE:** Line voltage input selection is set by the position of the switch 115/230V.
- 9. GROUND LUG:** Additional ground connector to be used in conjunction with the power cord ground.

# BACKPANELCONTROLS



(7016 Back Panel)

**\*NOTE:** 7016 back panel features the same controls as model 7004/7008. However, placement of controls are different.

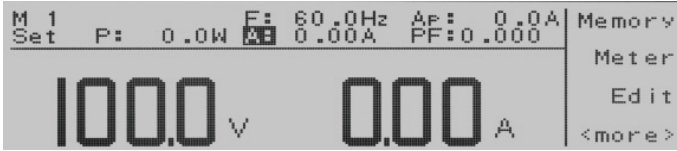


(7040 Back Panel)

- 10. OUTPUT TERMINAL POWER BLOCK:** 230 VAC  $\pm$  10% max input voltage. Output voltage 300 VAC max & 36 A max current. Only available on the 7040 model.
  - 10a.** Line Output Terminal: Line output screw terminal.
  - 10b.** Ground Output Terminal: Earth ground (chassis) connection for line cord
  - 10c.** Neutral Output Terminal: Neutral screw terminal.
  - 10d.** Line Input Terminal: Line input screw terminal for line cord.
  - 10e.** Ground Input Terminal: Earth ground (chassis) screw terminal for line cord.
  - 10f.** Neutral screw terminal for line cord. Line voltage may be applied at this terminal for balanced input voltage conditions.
- 11. INPUT BREAKER:** Protection breaker for input current protection set at 40 amps. Only available on the 7040 model.

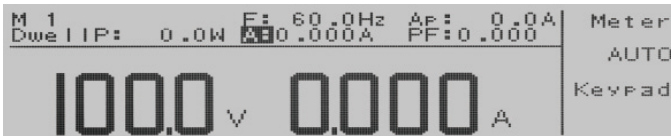
## SETTING UP A TEST IN MANUAL MODE:

When the AUTO RUN parameter in the System Parameters menu is set to MANUAL Mode and you are in the set screen the display will be as follows: (See Figure 1)



(Figure 1. Set Screen)

To initialize the test, press the Test/Reset key and the LED for the key will illuminate. The text "Set" on the set screen will turn to Dwell. In addition, your soft keys will change to include Meter, AUTO, Keypad, and Trig (see figure 2). In MANUAL Mode, output will run continuously until the Test/Reset key is pressed again or there is a failure condition.



(Figure 2. Set Screen)

In MANUAL Mode, the Rotary Knob on the front panel also becomes active. It can be used to adjust voltage or frequency. When the instrument is in an idle state, it can also be used to edit the Hi-Lmt. To adjust the frequency with the Rotary Knob the meter selection must be on F. To adjust the voltage with the Rotary Knob the meter can be on any selection except F. To adjust the Hi-Lmt with the Rotary Knob the meter selection must be on Hi-Lmt. To adjust the output, rotate the knob either clockwise or counterclockwise. Clockwise rotations will increase the output, whereas counterclockwise rotations will decrease the output. If LOCK is set to ON, the Rotary Knob is disabled.

## SETTING UP A MULTIPLE STEP TEST IN PROGRAM MODE:

PROGRAM Mode will run your test routine according to the parameters that have been entered within the Test Parameters screen. In most cases there will be a test time associated with PROGRAM Mode unless the time has been selected to  $\infty$  or the cycle mode is ON.

Turn the POWER switch to ON. From the Set screen, press the "<more>" soft key and in the next screen press the "System" soft key.

In the System Parameters menu, use the up and down arrow soft keys to highlight the AUTO RUN parameter which changes the test mode. If the AUTO RUN parameter is not set to PROGRAM, you will need to change it by pressing the "Edit" soft key.

In the next screen, the AUTO RUN parameter will be highlighted. Press the "Change" soft key to toggle the highlighted parameter to PROGRAM. Press the "Enter" soft key to save changes and then press the "Exit" soft key two times to return to the Set screen. The display will be as follows: (See Figure 3)



(Figure 3. Set Screen)

From the Set screen press the "Step" soft key. In the next screen, press the "Edit" soft key and use the up or down arrow soft keys to highlight the "Connect" parameter. Now, press the "Edit" soft key and in the next screen press the "Change" soft key to toggle the connect mode to ON. Press the "Enter" soft key to save changes made and then press the "Exit" soft key two times to return to the Set screen.

### Connecting a second step:

From the Set screen, press the "Step" soft key. Now, press the "Step +" soft key one time and that will activate step 2. In the next screen, press the "Edit" soft key and use the up or down arrow soft keys to highlight the "Connect" parameter. Press the "Edit" soft key and in the next screen press the "Change" soft key to toggle the connect mode to ON. Press the "Enter" soft key to save changes made. Press the "Exit" soft key two times to return to the Set screen. You have now set up a 2-step test. Note: For each additional step you want to add, you need to turn the "Connect" parameter ON. There are total 9 step locations.

To initialize the test, press the Test/Reset key and the LED for the key will illuminate. The text "Set" on the Set screen will turn to Dwell. In addition, your soft keys will change to include: Meter, Cycle, Keypad, and Trig. (continued on next page)

When the test cycle has completed, the display will show you the meter readings and the soft keys will change to: Meter, Cycle, Exit. You can toggle through the meter displays or show the cycles by pressing the appropriate soft keys. The display will also show you the test status where the text "Dwell" was located. If the test passes you will see PASS. If you press the Exit soft key the screen will reset back to the set screen.

## USING THE 7000 SERIES IN CONSTANT CURRENT MODE

### 1) Turn ON the OC FOLD parameter.

From the Set screen, press the "<more>" soft key. In the next screen, press the "System" soft key.

In the System Parameters menu, you can use the up or down arrow soft keys to highlight the "OC FOLD" parameter. To change the "OC FOLD" parameter, press the "Edit" soft key.

In the next screen, the "OC FOLD" parameter will be highlighted. Press the "Change" soft key to set the highlighted parameter to ON. Press the "Enter" soft key to save changes and then press the "Exit" soft key two times to return to the Set screen.

### 2) Program a current Hi-Limit, which represents the constant current you will provide to the load.

From the Set screen, press the "Edit" soft key.

In the next screen, the Edit Parameters menu, you can use the up or down arrow soft keys to highlight the "A Hi-Lmt" parameter. To change the "A Hi-Lmt" parameter, press the "Edit" soft key.

In the next screen, the "A Hi-Lmt" parameter will be highlighted. Using the Numeric Keypad enter the desired current limit. Press the "Enter" soft key to save changes and then press the "Exit" soft key one time to return to the Edit Parameters menu.

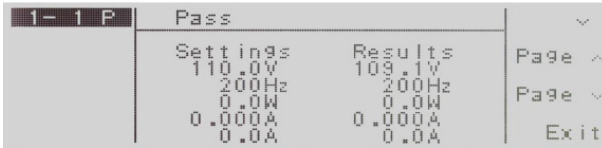
### 3) Program the voltage

From the Edit Parameters menu, use the up or down arrow soft keys to highlight the "Voltage" parameter. To change the "Voltage" parameter, press the "Edit" soft key.

In the next screen, the "Voltage" parameter will be highlighted. Using the Numeric Keypad, enter the voltage value. The voltage should be set higher than the nominal load voltage. This allows the current to adjust to the Hi-Limit value. After you enter the voltage, press the "Enter" soft key and then press the "Exit" soft key two times to return to the Set screen.

# VIEWING TEST RESULTS

From the Set screen, press the "Results" soft key to view the results. The screen will look as follows: (See Figure 4)



Settings	Results
110.0V	109.1V
200Hz	200Hz
0.0W	0.0W
0.000A	0.000A
0.0A	0.0A

The screenshot shows a monochrome display with a header '1-1 P' and 'Pass'. The main content is a table with two columns: 'Settings' and 'Results'. The 'Settings' column lists 110.0V, 200Hz, 0.0W, 0.000A, and 0.0A. The 'Results' column lists 109.1V, 200Hz, 0.0W, 0.000A, and 0.0A. On the right side, there are soft keys: 'Page ^', 'Page v', and 'Exit'.

(Figure 4. Results Screen)

If you have multiple steps linked together you will have to use the up or down arrow soft keys in order to toggle through each step to review the results.

Press the "Exit" soft key to move back to the set screen.



For additional information about these and other key features of the 7000 Series, please consult the full Operation and Service Manual or call us toll free +1-877-322-7693 or +1-909-860-1646

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