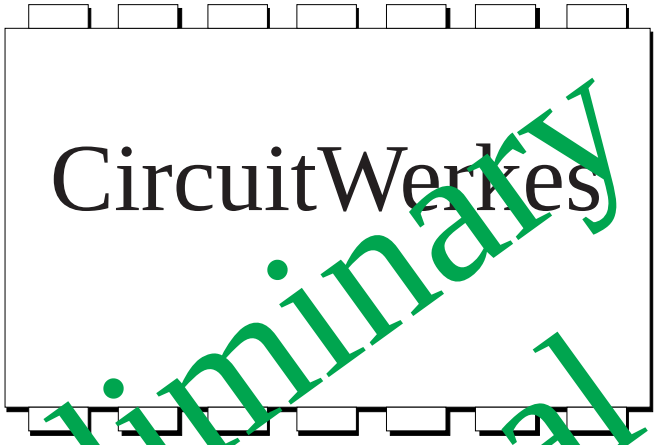
RP-1

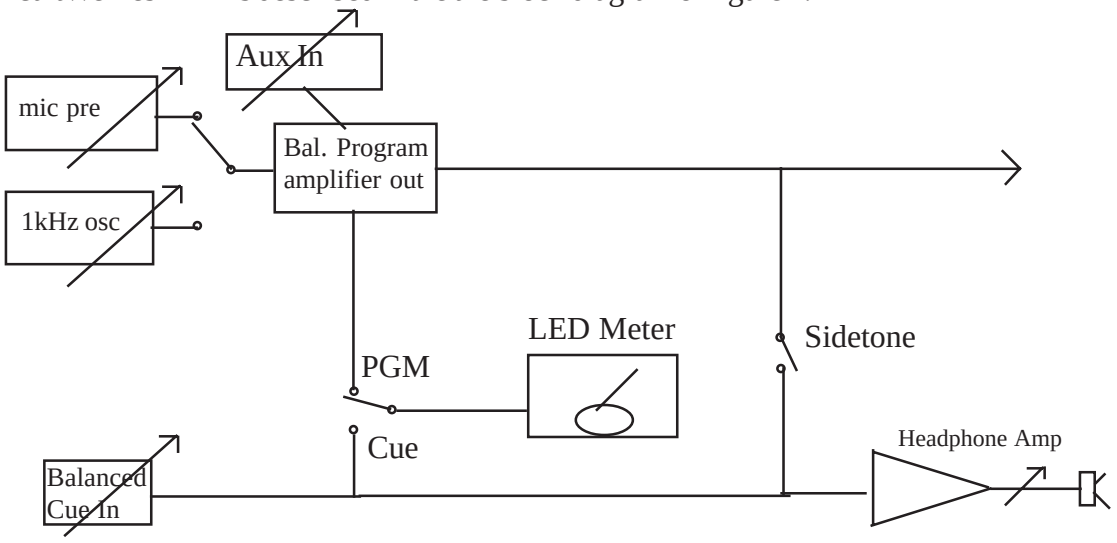
RemotePak Studio Extension



Technical Manual

CircuitWerkes
3716 SW 3rd Place · Gainesville, FL 32607
(352) 335-6555 · Fax (352) 331-6999

The CircuitWerkes RP-1 is described in the the block diagram of figure 1.



Front Panel Controls and Connections

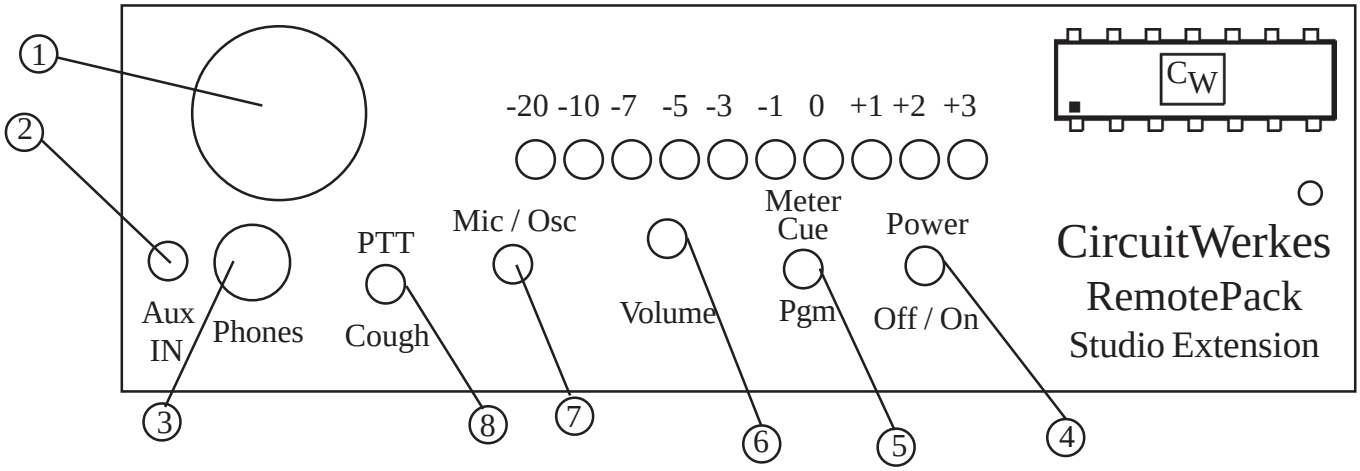


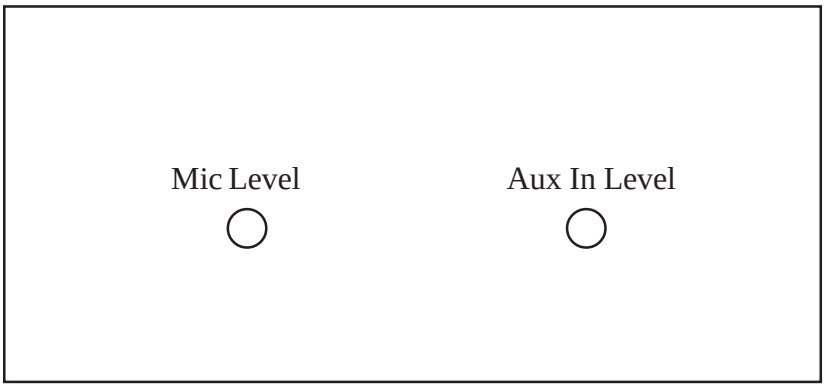
Figure 2. The RP-1's front panel layout.

1) Mic In connector. XLR connector for mic level input signals. This input is normally balanced and capable of accomodating most microphone output levels. Rearmost potentiometer on left side controls mic input level.
2) Aux in connector. !/8" mono phone jack accepts unbalanced signals from casstte decks, portable DATs, or other line level sources. Frontmost pot on left side controls Aux-in level.
3) HeadPhone Jack. 1/4" stereo headphone jack, both channels driven mono. Since both channels are driven from the same amp, inserting a mono plug into this stereo jack will short the output. Continued operation in this mode will result in parts getting wrm inside the unit, and still no sound will come from the headphones. If you use single-muff headphones, wire them tip-sleeve on a tip-ring-sleeve plug and leave the ring floating. Good for 1/2Watt maximum at mediocre distortion specs.
4) Power switch. Off and On. Pretty Simple. Leave it on overnight; kill the batteries. Remember to turn off the power when the unit is not in use.

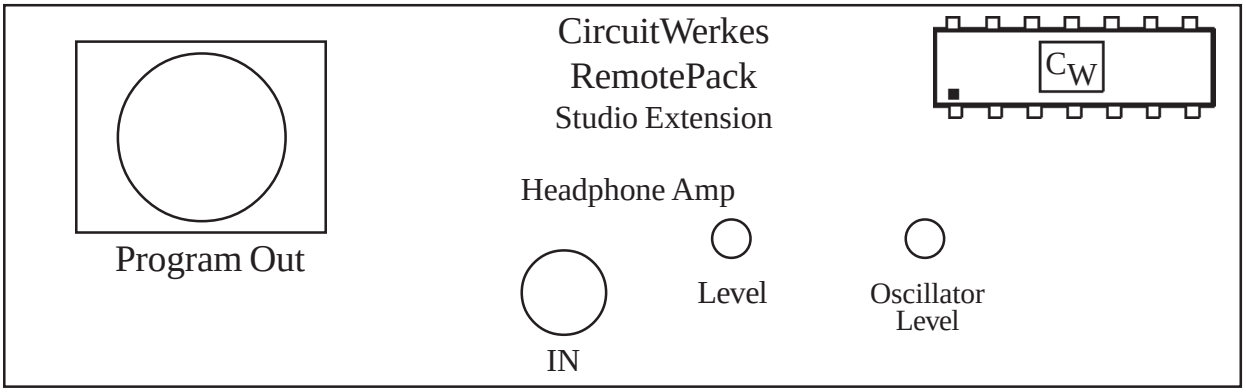
5) Meter Select Switch. Switches the metering circuitry from Program output to Cue input. The scale for the metering LEDs tracks closely and is referenced to 0dBm (In / Out) at 0 vu.
6) Headphone volume control.
7) Mic/Osc switch. You guessed it; switches between mic and Oscillator functions. The Oscillator level comes preset from CircuitWerkes at 0dBm, but you may readjust it with the OSC level pot on the back of the unit. When the oscillator is engaged, the MIC is muted. When the Mic is selected the Oscillator is disabled. Aux input audio is always available if potted up.
8) Cough / PTT switch. If you ordered your RP-1 equipped with 4 pin XLRs instead of 3 pin, its default set for Push-To-Talk action on this switch. All other units are jumpered for this switch to be a "cough" switch.

Side Panel Contols

The Left side of the box is where you'll find the mic level trim and the aux-in level trim. These two controls determine how much of each source gets mixed into the PROGRAM output.



Rear Surface Controls and Connectors



The program out connector is a balanced output, nominally 0dBm, designed to drive a 600 ohm load. The wiring of the XLR3 (male) follows industry norms with 1 being shield/ground, 2 - audio, 3 + audio. On Atlanta Testsets (with 4 pin XLR males) pins 1 & 2 are the balanced headphone cue-audio input; pins 3 & 4 are balanced PROGRAM audio + and - out.
The headphone balanced cue input is a 1/8" 3 conductor jack wired tip +, ring -, sleeve ground. This cue input has an input impedence of at least 20kOhms. It's level into the headphone amp circuit is controlled by its associated level pot. This control does not effect the metering circuit.
The oscillator level is also controlled from a back panel pot. It is preset to 0dBm.

Operation

Mic and Oscillator functions are mutually exclusive. The Aux-In source is unaffected by the MIC/OSC switch. Be careful about flipping the MIC/OSC switch into OSC with headphones on. The oscillator can be quite loud.

Metering. The metering can monitor the headphone Cue input or the Program output. The Metering Select switch does not effect what feeds the headphone amp or the program audio output.

PTT and Cough. The "SW MODE" jumper located just behind the PTT/Cough switch selects which function the switch performs. If the jumper is placed between the center pin and the pin closest to the headphone jack, the switch will be a Push-To-Talk switch, in the other position, the switch is a Cough switch which kills the mic preamp for as long as you press.

Battery replacement. Remove the battery cover door.. The batteries (two alkaline nine volts) go in the battery holder clips beside the pc board. For best fit, orient the batteries with the round terminal closer to the bottom of the enclosure.

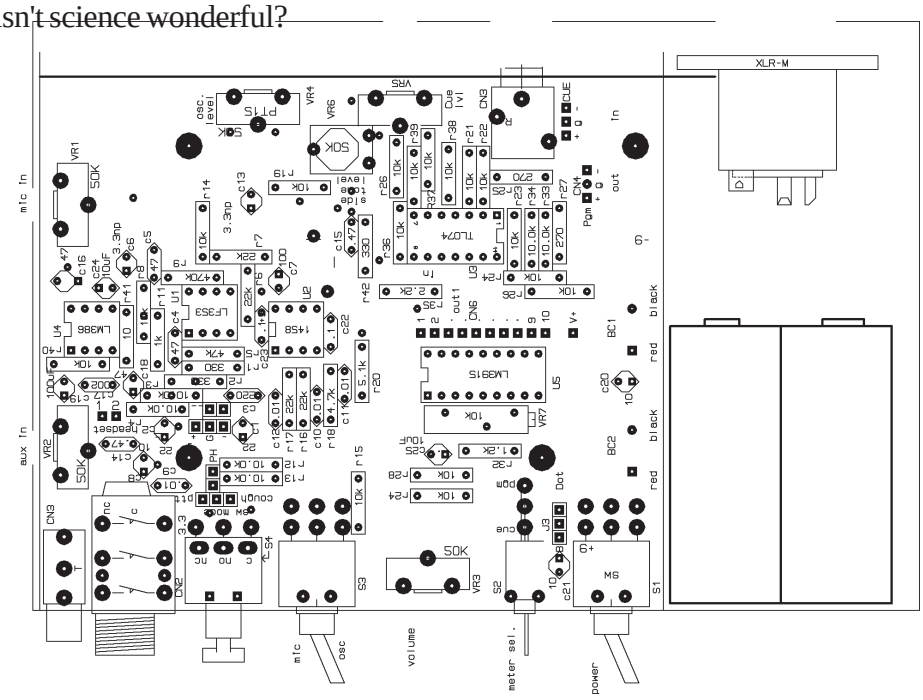
Care & Feeding

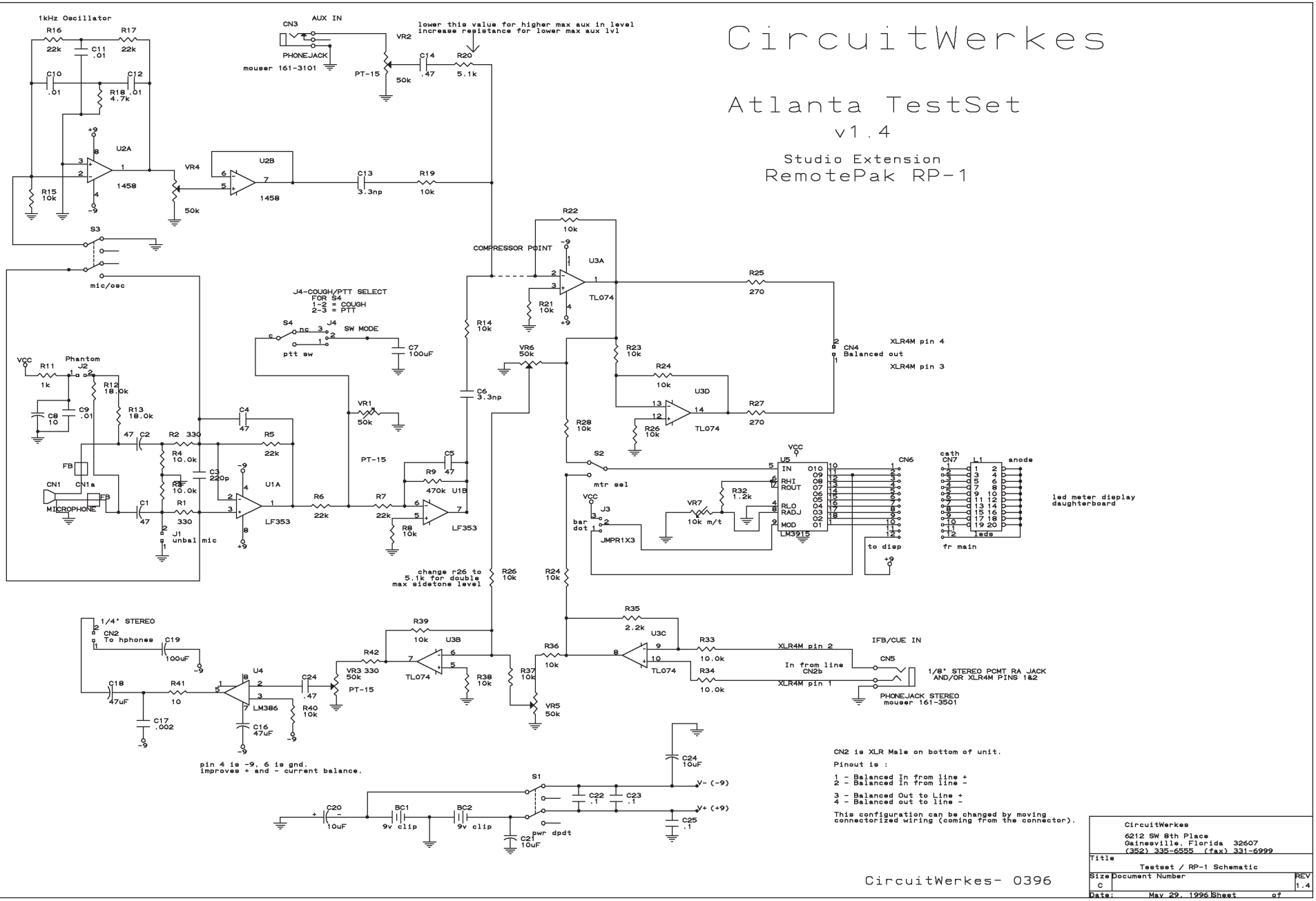
Keep the unit out of rain, sleet and snow, active volcanoes, etc. Extremely heavy handling (dropkicks, uncaught tosses and the like) may knock the batteries out of their holders; if you feel or hear anything bouncing around inside the box turn off the power immediately and investigate.

Most parts on the board that could conceivably "go bad" are socketed. If you must remove the PC board from the enclosure, you'll have to remove the cover, remove the front XLR copnnector (its cables easily unplug from the PCB (note their placement and orientation), remove the knobs from the five board-edge pots, remove the four screws holding the board down and the board will come out woithout much more difficulty. You'll find that it is easier to remove if the corner closest to VR1, the MIC pot) comes out first. Reassemble in reverse order.

A note about the Potentiometer shafts: they are actually pretty easy to remove. The back of the shaft portrudes ever-so-slightly from the back of the pot body; where it is split. you just gently squeeze the split end of the pot together with needle-nose pliers while pulling the shaft out. When reassembling, they just snap back in. Now, isn't science wonderful?

RP-1 PC Board Layout




CircuitWerkes
Atlanta TestSet
v1.4
Studio Extension
RemotePak RP-1
1kHz Oscillator
AUX IN
PHONEJACK
mouser 161-3101
lower this value for higher max aux in level
increase resistance for lower max aux lvl
COMPRESSOR POINT
mic/osc
J4-COUGH/PTT SELECT
FOR S4
1-2 = COUGH
2-3 = PTT
SW MODE
ptt sw
Phantom
MICROPHONE
unbal mic
LF353
TL074
XLR4M pin 4
Balanced out
XLR4M pin 3
mtr sel
bar
dot
JMPR1X3
LM3915
to disp
led meter display
daughterboard
fr main
cath
anode
change r26 to
5.1k for double
max sidetone level
1/4" STEREO
To hphones
LM386
pin 4 is -9, 6 is gnd.
improves + and - current balance.
XLR4M pin 2
In from line
CN2b
XLR4M pin 1
IFB/CUE IN
1/8" STEREO PCMT RA JACK
AND/OR XLR4M PINS 1&2
PHONEJACK STEREO
mouser 161-3501
pwr dpdt
9v clip
9v clip
CN2 is XLR Male on bottom of unit.
Pinout is :
1 - Balanced In from line +
2 - Balanced In from line -
3 - Balanced Out to Line +
4 - Balanced out to line -
This configuration can be changed by moving
connectorized wiring (coming from the connector).
CircuitWerkes- 0396
CircuitWerkes
6212 SW 8th Place
Gainesville, Florida 32607
(352) 335-6555 (fax) 331-6999
Title
Testset / RP-1 Schematic
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Date: May 29, 1996 Sheet of

REPAIR OR SERVICE INFORMATION

In the event of the need for service or repair, call CircuitWerkes at (352) 335-6555 for a Return Merchandise Authorization number (RMA). Then carefully package the unit along with a note of the problem and send it to the address below. Clearly indicate the RMA number on the outside of the box. We cannot accept returns without an RMA. Be sure to include your address (not a PO box), telephone number and best time to call.

CircuitWerkes
ATTN: CUSTOMER SERVICE DEPT.
3716 SW 3rd Place
GAINESVILLE, FL 32607

CircuitWerkes Limited Warranty

This product is warranted against defects for two years from date of purchase from CircuitWerkes and CircuitWerkes authorized distributors. Within this period, we will repair it without charge for parts and labor. Proof of purchase-date required. **Warranty does not cover transportation costs, or a product subjected to misuse, accidental damage, alteration (except as authorized by CircuitWerkes), improper installation, or consequential damages.**

Except as provided herein, CircuitWerkes makes no warranties, express or implied, including warranties of merchantability and fitness for a particular purpose. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.