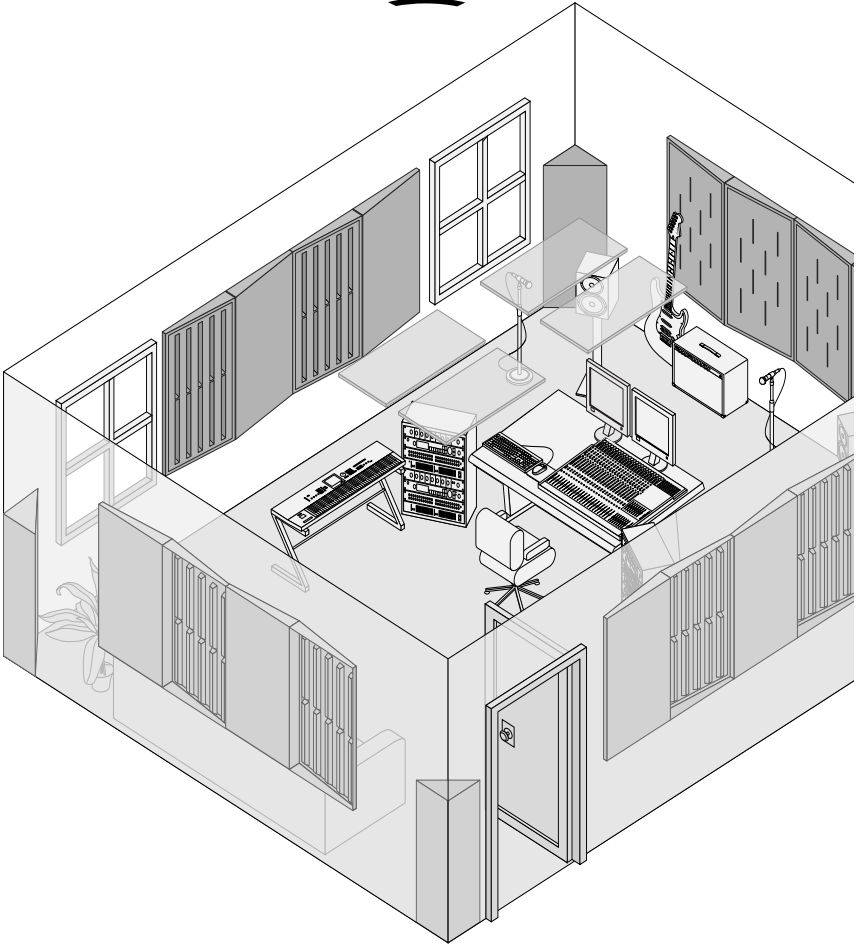


# STUDIO PANEL™

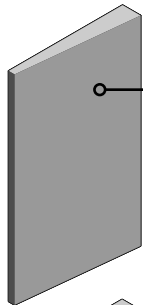


Installation Manual For Panel Kits  
SP442/ SP552/ SP664

## Introduction:

StudioPanel® kits are economical, easy-to-install acoustic treatment solutions for studios based on scientifically designed building blocks including Absorber/Diffuser pairs, Bazorber, SpringTrap, and Cloud-Panel units. Each kit is calculated to provide optimum absorption and diffusion for a given room size. StudioPanel is a full frequency component solution.

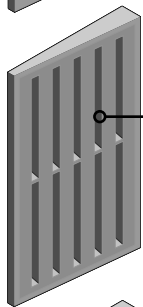
Every studio monitor system is affected by room acoustics. Allow the articulation, tonal balance and clarity of your monitors to be heard. Don't chance missing important elements within your mix. The panels can be installed in minutes, following the simple instruction charts. A line level and full sized template assists in placement of mounting hardware, so the panels are perfect the first time.



### Absorber:

**Construction:** Core is made of mineral wool clad in a fiberglass lining wrapped in a flame retardant Guilford FR701 fabric.

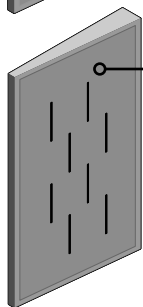
**Benefits:** Provides absorption down to 250 Hz



### Diffuser:

**Construction:** Core is made of low resonance styrene wrapped in a flame retardant Guilford FR701 fabric.

**Benefits:** Provides even dispersion down to 500Hz



### Bazorber™:

**Construction:** Core is made of low resonance styrene with mineral wool fill wrapped in a flame retardant Guilford FR701 fabric.

**Benefits:** Provides Helmholtz absorption of sounds from 250Hz down to 100 Hz

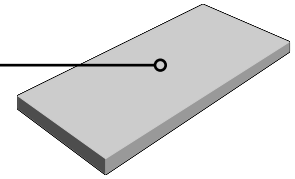
\* Trademark of MSR, Inc.

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### CloudPanel™:

**Construction:** Core is made of mineral wool clad in a fiberglass lining wrapped in a flame retardant Guilford FR701 fabric.

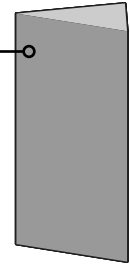
**Benefits:** Provides absorption down to 250 Hz



### SpringTrap™:

**Construction:** Ported MDF form with a spring loaded MDF mass stuffed with mineral wool. Entire unit wrapped in a flame retardant Guilford FR701 fabric.

**Benefits:** A highly efficient trap for sounds from 100Hz down to 40Hz. Units can be stacked or placed in any corner or base of wall.



## Tools Required:

Screwdriver Phillips Head #2, if you use this type of fastener

Hammer

25 foot tape measure

Pencil for marking locations

Self tapping steel stud screws or other appropriate fasteners for your wall surface

Laser Level (Optional)

## Panel Placement:

The three kits are designed for ranges of room sizes and each should be laid out according to the diagrams below. First measure your room, and then look up which kit you should have by using the chart. If you find that you have ordered the incorrect kit contact MSR as quickly as possible to ensure delivery of the right kit to you. We'll tell you if there is an extra charge or if you purchased too many panels. Finally, place the panels as closely as possible to the corresponding diagram.

For best results you will need to find the first reflection points between your speakers and your seated mixing position (see instructions later in this manual). Also, we have put together a handy full sized installation template to help you through the

**STUDIOPANEL®**

installation process.

The CD included with the Starter Pack has installation info, a full set of calibration test tones, examples of solutions, and acoustic modeling & analysis software. Could we make this any easier for you?!

*Just a bit about speaker placement:*

Please note that in the illustrations we've placed the speakers on stands in front of your desk and monitor. By doing this you best recreate the listening environment of the home. Listeners at home never sit in the near field. 99% of the time the speakers are 6 to 8 feet away from where they sit and listen. Try your best to emulate the listener in the home.

Basic 150 to 175 square foot room  
Using Kit SP442-C-S2

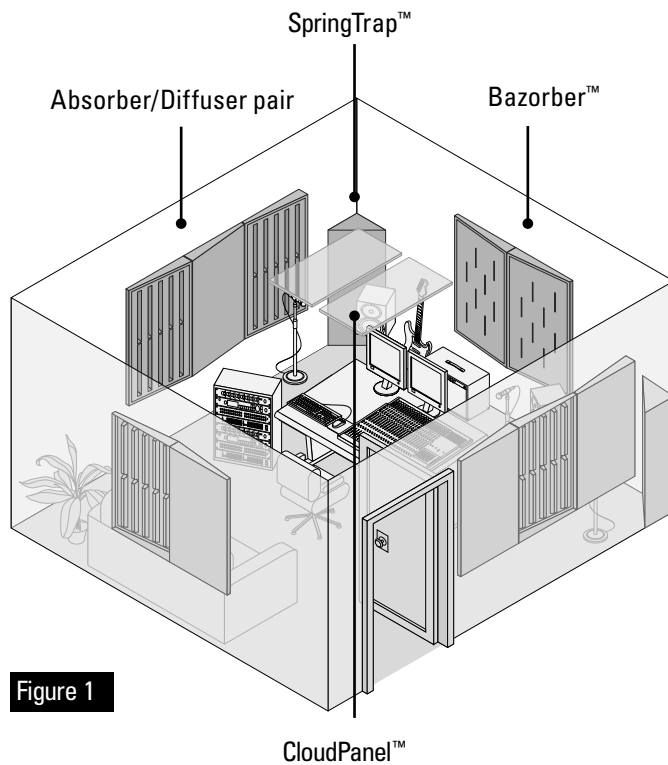


Figure 1

Basic 175 to 250 square foot room  
Using Kit SP552-C-S2

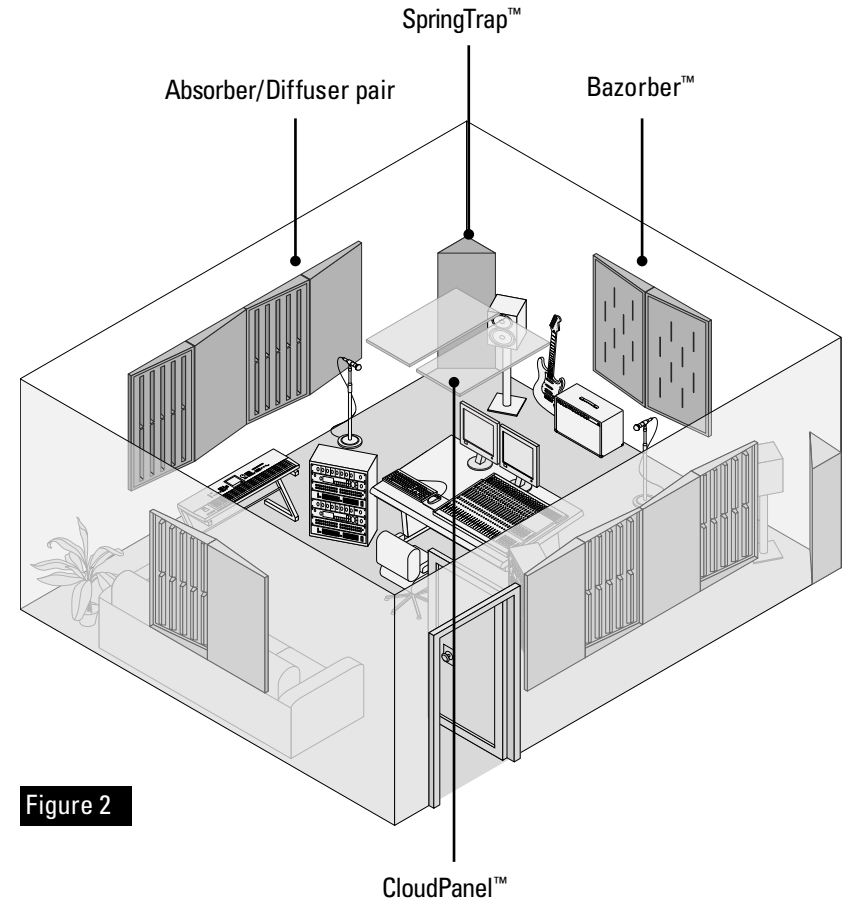


Figure 2

Basic 250 to 350 square foot room  
Using Kit SP664-C2-S4

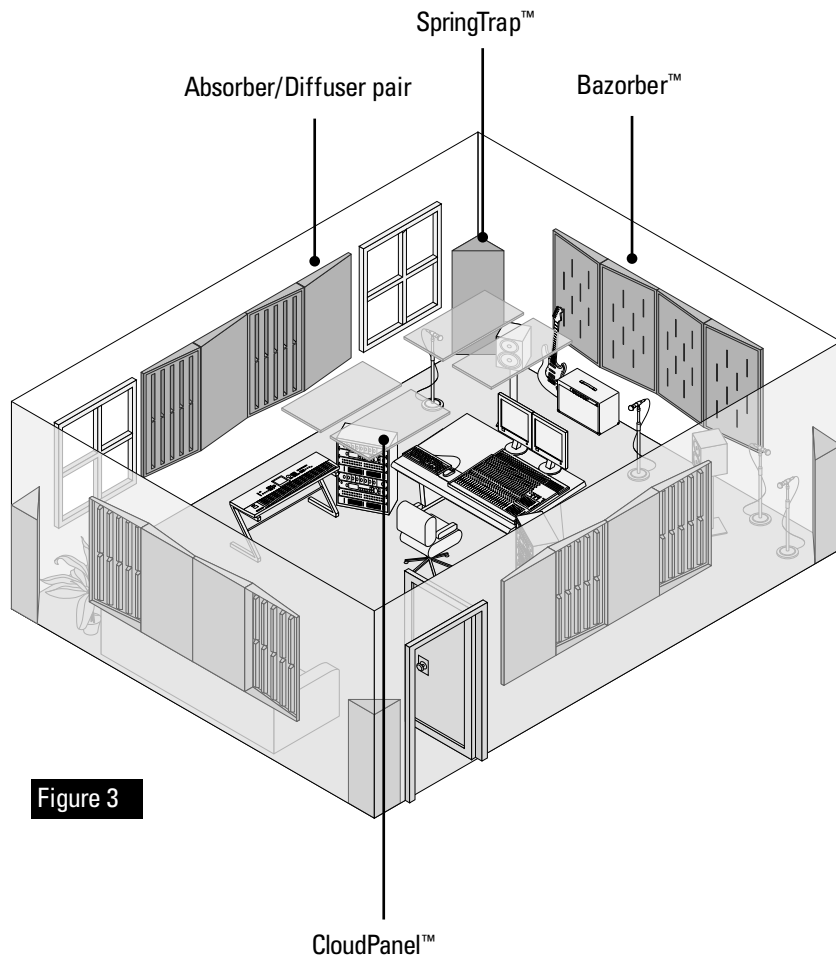


Figure 3

### Placement of Absorbers and Diffusers

The panel placements shown in figures 1-3 will give you great control over the acoustic reflections in your room. Make sure that you have placed a panel at the “first” reflection points. You can find these by simply using the mirror. While seated at the listening location, have someone walk up and down the walls holding this mirror flat against the wall. Where you can see a speaker in the mirror is the visual first reflection point and also the acoustic first reflection point. Mark an X at this point. Draw a line vertically to the horizontal 64” line which will be described later. Place the horizontal center of the first wedge panel at this location. Then alternate diffuser / absorber / diffuser etc., placing the panels right against each other along the wall.

Note that if on the left side wall the first panel is an absorber, the corresponding panel on the right side wall should be a diffuser. Don't be concerned about the front wall reflections at this time as the Bazorber and SpringTraps will handle these areas.

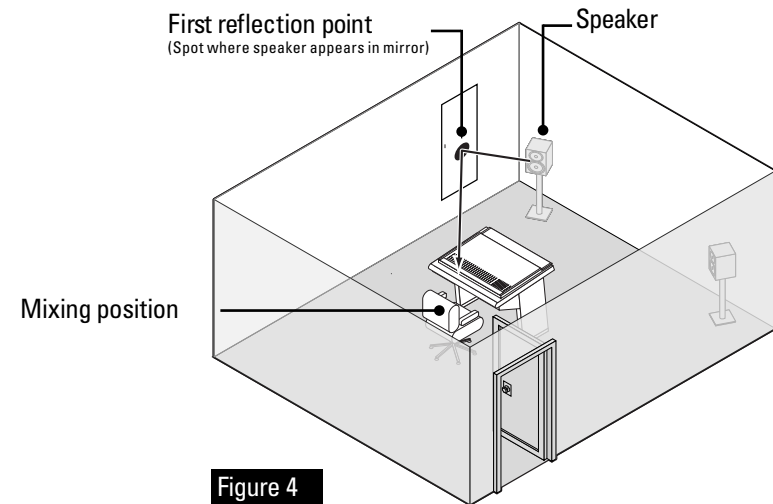


Figure 4

### Placement of Bazorber™

The Bazorber is a mid to low-frequency absorption device working in the 100 to 250 Hz range. Bazorber panels should be placed on the front wall centered between the front speakers at the same height as all other panels. Follow the same mounting instructions for all other wall panel installation. If you purchased the SP664 Kit (fig 3), both sets of Bazorbers should be placed on the front wall centered between the speakers.

## Placement of Optional Special Products

### SpringTrap™

A spring-loaded Bass trap, the SpringTrap, is our solution to very low frequency room resonance buildup in the range of 40 to 100 Hz. This unique design was presented as a research paper at AES in Amsterdam 2003.

The SpringTrap should be placed in an inconspicuous area in front of the mixing desk or in a corner on the floor. Experiment with the placement of this bass mode controller. Since this is a triangular device you should have no trouble finding areas to place it. Look at figures 1-3 and note recommended placement of the SpringTrap with the kit you purchased.

### CloudPanel™

A floating ceiling absorption panel, the CloudPanel, is our solution to unwanted reflection. Research has shown that ceiling reflections are detrimental to good sound reproduction.

We recommend applying absorption panels on the ceiling at the first reflection locations from the front speakers as shown in Fig 5. The StudioPanel optional CloudPanel kits include these panels

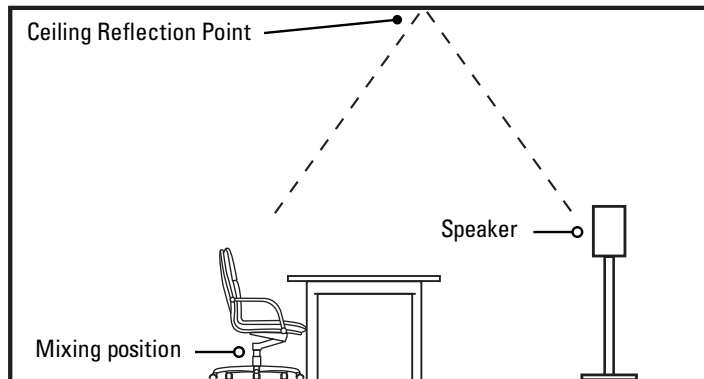


Figure 5

### Panel Installation

Now that you've located the exact recommended placement you can move ahead to the actual installation. The panels are hung from the walls using the attachments delivered with each kit. There should be one V-Bar for each panel. Please contact MSR immediately if you are missing any of the attachment devices. The bottom of the panels should be 2' from the floor. We recommend using self tapping

metal stud screws to mount the V-Bar. This allows you to place at least one of the mounting screws at a stud.

### Hanging the panels:

- Measure in one corner of your room 64" up from the floor as shown in fig. 6. At this point attach the end of the included string with a thumbtack or small brad.

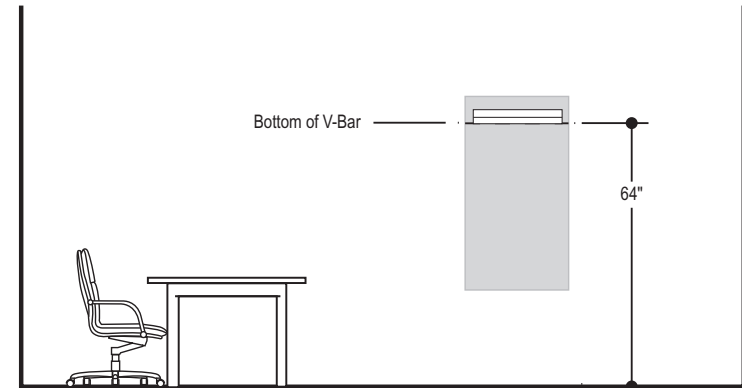


Figure 6

- Stretch the string and level line along this wall moving it up or down to center the bubble level. Fasten the end of the string with a brad or thumbtack.
- Mark the wall location for each panel after finding the first reflection points as described earlier.
- Fasten the V-Bar at each panel location so that the bottom of the V-Bar is at the string level (64") from the floor onto the wall. Use either self tapping steel stud screws, metal E-Z anchors for sheetrock, or other appropriate fasteners. Position the bar so that its wider portion is on the wall. You can use the paper template enclosed in the order box to ensure proper location of the V-Bar and proper layout of the panels.
- With adjacent panels leave a 4" gap between the two V-Bars.
- Hang the first pair of panels from the V-Bars at the first reflection point as shown in Fig. 4.
- Continue to hang the panels included with your kit as shown in Fig. 7 and 8. Note that placement of the additional wall panels is not hyper-critical. More specifically, it is the total square footage of absorptive/diffusion panels that counts toward an acoustic balance within your room.

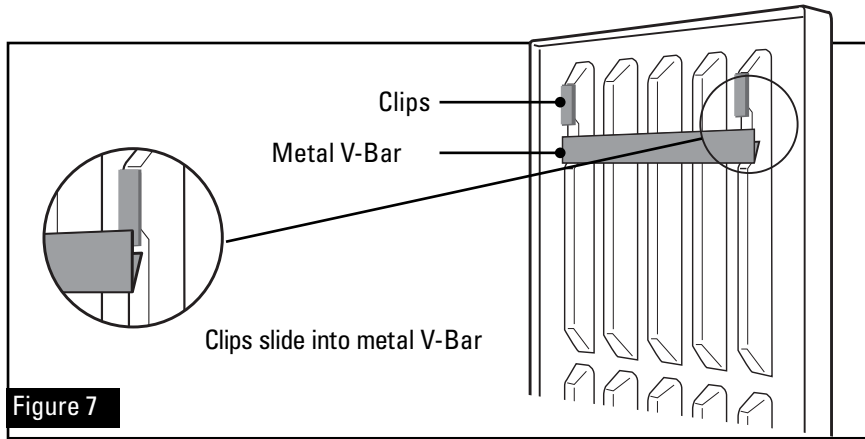


Figure 7

Note: Depending on your wall conditions and variations in your installation of each V-Bar, you may need to add a shim between either of the two clips to ensure that the final alignment of the panels result in a tight fit against one another. A folded piece of cardboard inserted where the clip locates into the V-Bar will easily fix minor variations or irregularities.

- Orient the panel so that the wedges follow the layout diagrams in figures 1 through 3.

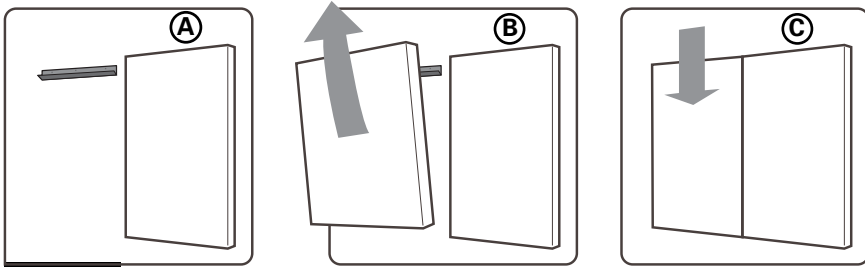


Figure 8

### Installation of the CloudPanel™

Use the mirror trick described above to locate these first reflection points. Screw 4 open eye hooks into the ceiling in a rectangle 12" by 36" as shown on the full size template. Make sure that you secure these open eye hooks in studs or use E-Z anchors or toggle bolts. Leave 12" between the long side eye hooks for panel 1 and panel 2. After all eye hooks are installed simply lift the wire loops (installed in the panel) over these hooks.

### Care Instructions:

The fabric may be cleaned with mild, water-free solvents or water-based cleaning agents or foam.

### Spares:

If any mounting hardware, panel parts, or extra printed material are needed please call MSR Inc.

### Testing and Calibration:

Once you have installed the StudioPanel Kit, we strongly urge you to go through the testing and calibration procedure on the StudioPanel CD. Follow the steps in the document called "Calibrating Your Studio". There is a DAW-based studio version, and a traditional studio version. You may find that repositioning your speakers, your seating, or your StudioPanel Kit can result in drastic improvements in sound quality. Here is the content and list of test tones on the CD:

### Track Content

CD ROM: Section ReadmeFirst PDF, Ulysses acoustic modeling program, Ulysses rooms (300ft<sup>2</sup> bare & 300ft<sup>2</sup> treated with SP664), SIA Smaart-Live analysis software, StudioPanel Installation manual PDF, What are these test tones for PDF, Calibration for DAW studios PDF, calibration for Standard Studios PDF, AIFF files of calibration tones for ProTools or other DAW

- 1) Introduction
- 2) Auralized demonstrations: Original signal
- 3) Auralized demonstrations: Sound in untreated room
- 4) Auralized demonstrations: Sound in room with StudioPanel
- 5) 1kHz, -20dBfs "0dBr" level set up tones at -20dBfs L and R
- 6) L Pink Noise @ 0dBr
- 7) R Pink Noise @ 0dBr
- 8) L&R Pink @ -3dBr
- 9) L&-R Pink @ -3dBr
- 10) L/R/L/R...Pink - 1 sec intervals @ 0dBr
- 11) L&R/L&-R Pink Noise @ -3dBr switching once per second
- 12) L channel 500Hz to 2kHz Filtered Pink Noise @ 0dBr
- 13) R channel 500Hz to 2kHz Filtered Pink Noise @ 0dBr
- 14) L&R 500Hz to 2kHz Filtered Pink Noise @ -3dBr
- 15) L&R 500Hz to 2kHz Filtered Pink Noise Pulsed 1 second ON/1 second OFF@-3dBr
- 16) L&R/L&-R 500Hz to 2kHz Filtered Pink Noise @-3dBr switching once per second
- 17) 40Hz to 80Hz band-limited Pink Noise @ -3dBr
- 18) "0" level set up tones, 1kHz, 0dBr, (-20dBfs), L and R
- 19) "0" level 20Hz to 20kHz sweep at 0dBr L and R
- 20) Impulsive signals L&R (Gold Line APT2)
- 21-49) 1/3 rd Octave Pink noise @ 0dBr L & R 20Hz, to 20kHz

For the latest updates to this manual, go to [www.studio-panel.com](http://www.studio-panel.com)



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