

OPERATIONS MANUAL

G-Scan

SmartPad Controlled Scanning and Test System for the ML8-5G Projector

Revised
April 14, 1999

Mbolazer, Inc.
790 Hampshire Road, #D
Thousand Oaks, California 91361
Phone: 805.230.2166
Fax: 805.230.2168

Copyright © 1998 by Mbolazer, Inc. All Rights Reserved

SYSTEM COMPONENTS

(If any of these components are missing contact your dealer immediately.)

1. G-SCAN Head
2. G-SCAN Interface
3. 15 Pin Cable
4. 3.5mm Male to Male Cable
5. Power Supply
6. SmartPad (Wired keypad)

7. 25' Six Pin Telco Cable

CONGRATULATIONS . . .

. . . you have just invested in one of the most powerful accessories for the Lil' G Beam. The G-Scan system puts the control of laser *scanning* and test generation *right in the palm of your hand*.

Before we start lets familiarize you with some terminology.

Scanning – Laser Light Manipulation

X Axis - Horizontal

Y Axis - Vertical

Z Axis - Depth

Blanking - Modulation (Turning the laser on and off)

Before You Start

Note: When operating more than one G-Scan unit, it is essential that the serial numbers on the G-Scan Head and The G-Scan Interface match. These components are aligned together before shipment, and are to be operated as mated pairs.

Installation of G-Scan onto the Lil' G Beam

1. It is always best to place your G-Scan Head onto beam Position 8. (When looking at the front panel of the Lil' G Beam, Position 8 is the furthest to the right. Carefully loosen the retaining screw then gently twist and remove the dual beam module in Position 8. Insert the G-Scan Head and tighten the retaining screw until it is snug. Select any single beam module and remove it replacing it with the dual beam module.)
2. Hang the G-Scan Interface within 6-8 inches of Lil' G Beam.
3. Connect the G-Scan Interface and the G-Scan Head with the 15-pin cable.
4. Using the 3.5mm cable connect into the "Blanking In" on the Lil' G Beam and then to the G-Scan Head.
5. Plug the power supply into the power jack located on the back of the G-Scan Interface.
6. Plug the SmartPad into the modular telephone jack on the back of the G-Scan interface. Turn the power on to the G-Scan.
7. Lock on Position 8 on your DMX-512 controller. (You should see a scrolling text message.)

Sound Activation

Mobolazer is always evaluating and implementing new ways to improve products to either enhance performance or add new features. Realizing that the working environment of the G-Scan is typically very noisy, we have added a microphone sensitivity knob to the back of the G-Scan interface.

In Modes 1, 2, 3, 5 and 7 the built in microphone controls movement and chopping. If the MIC button on the SmartPad once, sound will chop or (blank) the laser to the sound of the music. If the MIC button is pressed twice, sound will make changes to the X, Y, and Z-axis as well as chop or (blank) the laser. In MIC mode 2 three frequencies are sampled to create amazing aerial scan effects.

To adjust the sensitivity call up Mode 1 using the SmartPad. Press the MIC button once. Without sound the laser will disappear. Then turn the sound up in your facility to normal operating levels. Adjust the round knob located on the back of the G-Scan interface until the pattern responds with the sound. You're ready to go.

SmartPad (Wired Remote)

Mic 1 (once) - Breaks Beam by local sound in Modes 1,2,3,7

Mic 2 (twice) - Advances X,Y,Z, Chop to the beat of the music (automatic)

Power - Saves Patterns, Laser On/Off

X - Controls the X Axis

Y - Controls the Y Axis

Z - Controls Depth of change

Z - Controls Depth in multi level modes 5,8

Chop Up - Blanks the Laser on and off

Chop Down - Controls the percentage of chop

Change Up - Change X,Y,Z,Up

Change Down - Change X,Y,Z,Down

Rew - Rewinds Playback system

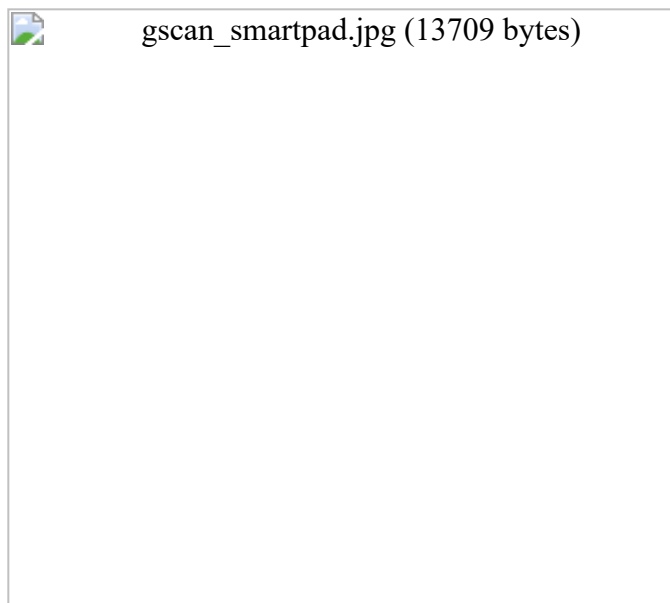
FF - Fast Forwards Playback System

Rec - Records into Playback system

Stop - Stops Play

Mode - Mode Select (1 to 8)

Menu - See Below



The powerful new SmartPad is standard on all G-Scans ordered after November 1, 1998. With the SmartPad you have an effective data storage, playback, and control device.

All operations are activated and modified using the Smart Pad. Simply attach the SmartPad via the 6-pin Telco cable provided and push a button. Your command is sent instantly to the G-Scan Interface. **Note:** Holding the button down for longer than a second will repeat that command several times per second.

Let's begin:

Mode 1 Circles, Tunnels, and more

In this mode you have control over the following:

1. X,Y,Z
2. Mic 1
3. Mic 2
4. Power
5. Chop

Example:

Press the X button on your SmartPad. Then press the CHANGE buttons up or down. Press the MIC button. Press the MIC button again. Press and hold the CHOP UP Button until you notice the dashes are missing. Hold until desired effect occurs. Then press Y and change up or down. Once you have created your desired effect you can store this in your play back system. (See Play Back Recorder)

Mode 2 Geometric Designs

In this mode you have control over the following:

1. X,Y,Z
2. Mic 1
3. Mic 2
4. Power
5. Chop

Mode 3 Lissajou Patterns

In this mode you have control over the following:

1. X,Y,Z
2. Mic 1
3. Mic 2
4. Power
5. Chop

-

Mode 4 Kaleidoscope

This is a self-running program. You may record it into the playback system

(See playback recorder)

-

Mode 5 Liquid Sky™

This Mode Contains Several Sound Activated Skies, Ceilings, and Fans.

In this mode you have control over the following:

1. Z (Depth Change Up/Down)
2. Power
3. Rec

-

Mode 6 Clock Function

Keeps Accurate Time while Plugged in. Reprogram if power is interrupted.

In this mode you have control over the following:

1. X (Hours) Change Up/Down
2. Y (Minutes) Change Up/Down
3. Power
4. Rec

Mode 7 Beam Show

Appears as a swirling fan. Press MIC once to chop and twice to dance and chop the beams.

There is no other control in this mode.

-

Mode 8 Text Editor

Note 1: If you are running beams and text at the same time that G-Scan is in Mode 8, you will experience what appears to be abnormal operation of the Lil' G Beam. This is due to the blanking that occurs in the process of generating text. Running text and beams at the same time is can be used as a beam sound active effect when music is playing. If you desire to turn that effect off, switch g-scan to modes 1-3. **Do not push the power button on the SmartPad during operation.** This will turn off the laser and will appear as if the G-Beam is not working. If for any reason during normal operation the laser turns off simply push the power button on your G-Scan Remote. It may have been accidentally pushed.

Note 2: Moving from line to line:

You can enter up to 64 characters of text per line. Be aware that at any one time only 8 of the 64 characters are viewable. You can scroll left and right to view the entire line (8 characters at a time) using the Y Function Key and the Up/Down Arrow Keys. There are 8 lines (64 characters each) available for text programming. You can navigate from one line to another by using the Z function Key and the Up/Down Arrow Keys. You are initially in the line number one position, and pressing the Up Arrow Key advances you to line number two. A second pressing of the Up Arrow Key advances you to line number three. Likewise, pressing Z and the Down Arrow Key would move you, for example, from line three to line two.

Instructions:

1. Press MODE until MODE 8 appears.
2. Press Y.
3. Press Change Up/Down (you should begin to see all the characters scrolling)

To practice entering the following sentence: G-Scan Rules!

4. Find the first letter G.
5. Press X
6. Press Change Up (Moves Whole Line Left)
7. Press Change Down (Moves Whole Line Right)
8. Press Change Up again (Moved Whole Line Right)
9. Press Y
10. Press Change Up or Down to Find the Hyphen
11. Press X
12. Press Change Up to shift whole line right again. Repeat until complete!

Once you are satisfied with the text you can now store the text into the playback system. (See playback recorder). Note: Only saved text will scroll.

There are 8 lines on which you can write text. To access these lines use the "Z" button.

1. Press "Z"
2. Then press "Change up or down"
3. When the image disappears then you know you are on another line.

Playback Recorder

Much like your VCR, the playback system on the G-Scan can store up to 15 frames which can be played, rewind, fast forwarded, and stopped.

1. From any Mode create your desired effect.
2. Press the Power button twice.
3. Press REW to locate the slot in the recorder to insert the effect.
4. Press REC twice.
5. Press Play
6. Repeat this process in any mode.

Remember this system is linear:

1----2----3----4----5----6----7----8----9----10----11----12----13----14----15

Be aware that when you insert a new effect, the entire line shifts right and any previously stored effect in slot 15 will be lost. Play length per slot is three seconds. If you desire to play a particular effect longer than three seconds, press the REC button when recording into the playback system as many times as you want into the same slot. Maximum playtime per slot is 45 seconds.

When you have stored your completed show, just press play and your show will loop continuously until you press stop.

To exit the playback system and return to another Mode just press stop then Mode.

Menu

MENU Button on the SmartPad accesses the new features.

To familiarize yourself with the various SmartPad features, begin by pressing the **MENU** button.

The words MENU OFF will appear.

To exit the menu features, press menu until the words MENU OFF appear then simply press the mode button to exit. This will return you to normal MODE operations.

By continuing to press the MENU button, different words will be projected. These words define their function and are as follows:

LITESHOW – This is a sound activated program. Pressing Mode when this word appears will load a preprogrammed liteshow into the G-Scan interface for playback. When you press mode the red LED flashes. This means the show is loading. When the word LITESHOW appears again press the menu button until MENU OFF appears, then press the MODE button and press play. The loaded liteshow will begin to play.

SHOW ONE – Preprogrammed show: Geometrical Shapes, Liquid Skies, Tunnels etc.

Repeat Load process described in Liteshow description above.

SHOW TWO - Preprogrammed show: Spirals, Chopped Lissajou Effects.

Repeat Load process described in Liteshow description above.

SHOW THREE - Preprogrammed show: Simulated planetarium effects.

Repeat Load process described in Liteshow description above.

SAVE ALL –Shows stored in the G-Scan are transferred and saved into SmartPad memory. This operation overwrites all programs previously created and saved in SmartPad memory.

LOAD ALL – Shows created in SmartPad are stored into G-Scan memory. This operation overwrites all programs previously created and saved in G-Scan memory.

IR-OFF – Turns the infrared capabilities off.

IR-ON – Turns the infrared capabilities on.

Remember when the LED is flashing the SmartPad is loading or transferring data.

Remember to press the MENU button until MENU OFF appears and press MODE to exit the menu.

Safety

While the G-Scan itself does not have a self-contained laser source, G-Scan, when operated on a Lil' G Beam, is designed to emit laser light out of the front opening of the G-Scan Head.

WARNING!

- Do not look directly at a laser beam scanning or non-scanning. Never point the beam at another person.

- Use of controls, adjustments, or procedures other than those specified herein may result in injurious exposure.

CAUTIONS:

- Operate using 110-125 VAC, 60 Hz only.
- Ground yourself before touching case if the area is static prone.
- Keep dry. Internal optics may be damaged by liquids
- Because of the highest in quality assurance, Mobolazer, Inc. offers the following warranty:

This product is warranted to the consumer for one year from the date of purchase against defects in materials and workmanship when the unit is used as directed and not abused.

Abuse is defined as, but not limited to, neglect, user damage, fog juice contamination, liquid contamination, and mishandling.

If your product should exhibit any unusual problems contact your local dealer for return and repairs.

Compliance: This laser product is in compliance with FDA/CDRH radiation performance standards 21 CFR 1040.10 and 1040.11.

FINAL WORD

Enjoy your laser system and always keep safety first.