GilderNewsletter
Views and News from the World of Gilderfluke & Co.

Pc•MACs GearLists

There is a new way to add channels to a show in Pc▪MACs. Instead of adding outputs as individual analogs and digitals, you simply pop up a new menu item to 'Add a device…'.

If you add an Sd -50/40 to a show, Pc▪MACs will now know how many output channels to add. If you add an RGB light to a show, not only will Pc▪MACs add three analog channels named 'red', 'green' and 'blue', these channels will be displayed in those very colors.
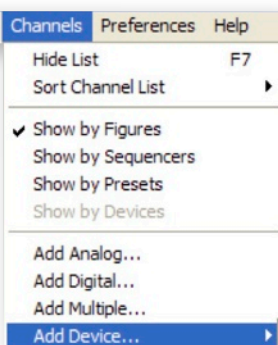
Pc▪MACs uses two GearLists to hold the details of anything you add to a show. The first holds info about all GilderGear. Pc▪MACs will now be able to prevent you from doing things like sending a gigantic show to a controller which has only a tiny show memory.

The second, user editable GearList has information about other companies DMX-512 compatible devices. These include dimmers, light fixtures, smog machines and the like. If we don't already have some piece of equipment that you use regularly in this GearList, you can open it up and stick it in yourself. ~ G

Using a Br-Brain4 as a Timecode Reader

The Br-Brain4 not only replaces the older Smart Brick Brains, one Br-Brain4 can at the same time replace eight Br-SmartMedia cards by outputting 2048 channels worth of DMX-512.

The Br-Brain4 can also take the place of a MACs-SMP. Using a high speed connection to the Br-Brain4, your PC can use the Br-Brain4's Smpte and DVD timecode Readers and send and receive serial strings to control other devices.

You just wire the Br-Brain4 into the control system that will be staying with the show as you would be doing normally. Attach the Smpte from wherever it is coming from, the DVD player(s) and other serial controlled devices, and four DMX-512 outputs. You program your show, accessing these attached peripherals. When you are done programming, the shows and all the settings you have been using for the strings, Smpte and DVD players are automatically downloaded to the Br-Brain4. Since everything in the installation worked during programming, the installation wiring is pre-tested and will work just the same once you download your shows. ~ G
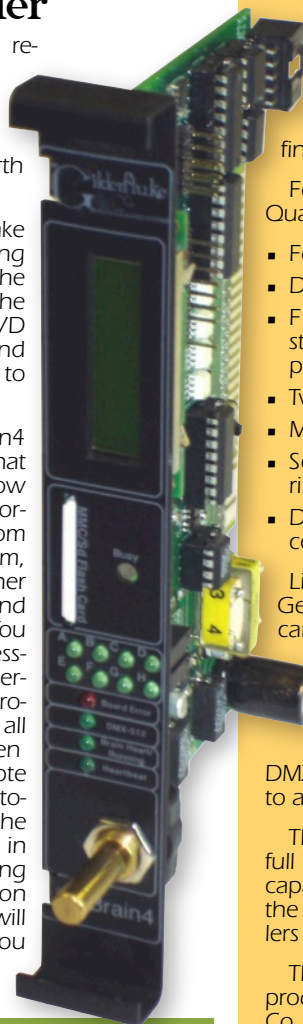
New!

DAC-Quad

The new DAC-Quad is a smaller version of the Br-ANA. It is in the same popular metal-cased format as you'll find on the Br-miniBrick8.

Features of the new DAC-Quad include:

- Four 0-10 vdc outputs
- DMX-512 in and out
- Four model-airplane-style servo motor outputs
- Two isolated triggers
- Micro Sd flash card slot
- Screw terminals and ribbon cable outputs
- DE-09 Rs-232 serial for configuration & control

Like all current Gilder-Gear, the new DAC-Quad can run standalone or is networkable using DMX-512. It can receive DMX-512 from another controller to act as a 'slave', or source DMX-512 to other devices to act as a 'master'.

The new DAC-Quad has a full universe (512 channels) capacity, making it one of the smallest lighting controllers available.

The DAC-Quad is the first product from Gilderfluke & Co. to use a micro Sd card for storing show data. Most other GilderGear use the standard form factor Sd and SdHC cards. ~ G

New Online Videos For GilderGear

New training videos are now available for many of the products from Gilderfluke & Company. We already have shot several items, like the Br-miniBrick4, Br-miniBrick8, Amp-50, Sd-10 and Sd-25, and will be adding more videos for other items over the next weeks and months.

These videos are broken up into many smaller parts, each having to do with a single aspect of the device. You will find individual videos for wiring, programming and downloading shows and sounds for most products. Other products get more videos covering their unique features.

These videos are not meant to replace the manuals, but are just as a visual version of the 'quick starts' that are in most of the Gilderfluke product manuals.
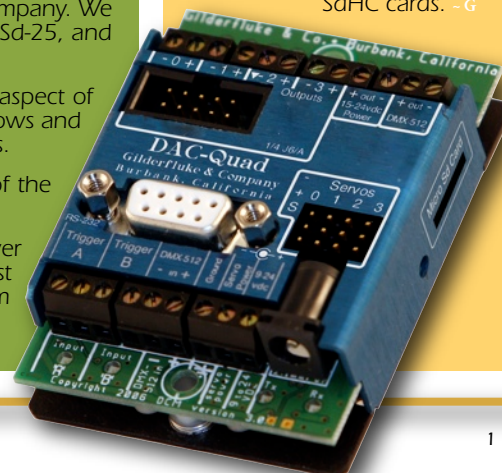
All the videos are being shot and edited in 1080p format. As they are completed, lower resolution versions of these videos will be loaded onto the GilderCDs that come with most GilderPackages. Higher resolution versions will be available from our web site or from YouTube. Just search for 'Gilderfluke', or the name of the item you are interested in. ~ G

Menu excerpt:

Channels	Preferences	Help
Hide List		F7
Sort Channel List		▶
✓ Show by Figures		
Show by Sequencers		
Show by Presets		
Show by Devices		
Add Analog…		
Add Digital…		
Add Multiple…		
Add Device…	▶	

Gilderfluke	▶	Br-ana
American dj	▶	Br-brain4
Color kinetics	▶	Br-minibrick4
Diversatronics	▶	Br-minibrick8
Generic	▶	Br-multibrick32
Martin	▶	Br-zbr
Oase	▶	Pb-dmx/08
		Pb-dmx/16
		Pb-dmx/24
		Pb-dmx/32
		Sd-50/40
		Sd-50/8
		Ser-dmx

GilderGear Comparison Chart

GilderGear Part Number	Show Control	Audio Player	Other Features	DMX-512 Input	DMX-512 Output	Show Control Outputs	Trigger Inputs	Clock/Calendar Schedules	Serial Port(s)	Memory	Flash Card	Starter Kit	Notes
Sd-10		Yes (stereo)	Line Level Out				Two Opto + Serial		Rs-232 (optional)	Sd Cards up to 32 GBytes	removable Sd or SdHC	Yes	CD player Replacement
Amp-50			50 Watt Digital Class-D Amp										Equiv. to a 200-250 Watt Amp
Sd-25		Yes (stereo)	50 Watt Amp Mixer Input			1 Status Output	Two Opto + Serial		Rs-232/422 (optional)	Sd Cards up to 32 GBytes	removable Sd or SdHC	Yes	Equiv. to a 200-250 Watt Amp
Sd-50/0		Yes (stereo)	100 Watt Digital Amp				Eight Opto + Serial		Rs-232	Sd Cards up to 32 GBytes	removable Sd Card	Yes	Equiv. to a 400-500 Watt Amp
Sd-50/8	Yes	Yes (stereo)	100 Watt Amp 8 ServoMotors*	1 Universe (512 Chan.)	1 Universe (512 Chan.)	Up to 8 Digital	Four+Eight* + Serial	Yes (GPS Optional)	1) Rs-232 1) Rs-422	Show: 4 MBytes	removable Sd Card	Yes	* Uses 8 Show Control Outputs
Sd-50/40	Yes	Yes (stereo)	100 Watt Amp 8 ServoMotors*	1 Universe (512 Chan.)	1 Universe (512 Chan.)	Up to 40 Digital	Four+Eight* + Serial	Yes (GPS Optional)	1) Rs-232 1) Rs-422	Show: 4 MBytes	removable Sd Card	Yes	* Uses 8 Show Control Outputs
Br-miniBrick4	Yes					Four Digital	One Opto		Optional	8 KBytes			Our smallest controller
Br-miniBrick8	Yes		Two PCM Servo-Motor Outputs	1 Universe (512 Chan.)	64 DMX-512 Channels*	8 Digital 2 Servo	Two Opto + Serial		Rs-232	64 KBytes			* DMX-512 outs eat up Memory
Br-MultiBrick32	Yes			½ Universe (256 Chan.)	Feedthru	32 Digital	Four Opto + Serial		Rs-422	512 KBytes			Runs stand-alone or in Smart Brick Brain
Br-ANA	Yes			1 Universe (512 Chan.)	1 Universe (512 Chan.)	16 Analog	Four Opto + Serial		Rs-422	Sd Cards up to 32 GBytes			DMX-512 to Analog Card
DAC-Quad	Yes		Four PCM Servo-Motor Outputs	1 Universe (512 Chan.)	1 Universe (512 Chan.)	Four Analog	Two Opto + Serial		Rs-232	micro Sd up to 32 GBytes	removable micro Sd		DMX-512 to Analog Card
Z-Brick (Br-ZBR)	Yes			1 Universe (512 Chan.)	Feedthru	32 Digital							DMX-512 to Digital Card
Br-Brain4	Yes		Smpte Reader, DVD Control	1 Universe (512 Chan.)	4 Universes (2048 Chan.)		Ten Opto + Serial	Yes (GPS Optional)	2) Rs-422	Sd Cards up to 32 GBytes	removable Sd or SdHC		Plays 8 asynchronous shows
Pb-DMX/8, /16, /24 or /32	Yes		3.5 Amp AC or DC Relays.	1 Universe (512 Chan.)	64 DMX-512 Channels*	up to 32 3.5 amp Relays	Two Opto + Serial		Rs-232	4 MBytes			* DMX-512 outs eat up Memory
MACs-USB	Yes		Smpte, DMX & Console in/out	1 Universe (256 Chan.)	1 Universe (256 Chan.)		Four Opto						Turns PC into Show Control System
Br-SDC			Serial Device Controller				Ten Opto		1) Rs-232 or 8) Rs-422				Runs DVD players in kiosks, etc.
Br-SDC8			Serial Device Controller/Mux.				Ten Opto + Serial		8) Rs-232 1) 232/422				Runs 8 DVD players or other serial gear
SER-DMX	Yes		16 PCM Servo-Motor Outputs	½ Universe (256 Chan.)	Feedthru	16 PWM Outputs			Rs-422				DMX-512 to pwm ServoMotors
BrightSign HD Video		Yes (stereo)	1080p, 1080i, 720p, 576p, 480 Video Player				Eight TTL (incl. adapter)	Option on some models	Rs-232	Sd Cards up to 32 GBytes	removable Sd, SdHC or SdXc cards	Yes	Up to 1080p, MPEG-2, H.264/MPEG-4
LG-DMX/DC			12-24 vdc DMX-512 Dimmer	1 Universe (8 Chan.)									DMX-512 to DC Dimmer
DP-DMX20L			115 vac DMX-512 Dimmer	1 Universe (4 Chan.)									Other dimmer sizes available

Triggering 1080p Videos from DMX-512

Using the GilderScript (see below), you can easily trigger hundreds of video clips on a BrightSign player from switches, a PLC, or (of course) a Gilderfluke & Co. show controller.

But what happens when you don't have any of these? In most live theaters, all you have is the DMX-512 from the light board.

The new v-HD-to-DMX plugs right into and is powered by a v-Hd410, v-Hd810, v-Hd1010 or v-Hd1010w!. It listens to any stream of DMX-512 to select video files and trigger them.

You have the choice of using a single DMX-512 channel for triggering the video player (if you are using DMX-512 from GilderGear, which can control each bit within a DMX-512 channel), or eight consecutive channels (if you are using a light board or other source of DMX-512 that can't control the individual bits within a DMX-512 channel).

For configuration, you just select your DMX-512 type and set the address. Then throw your videos and the GilderScript onto an Sd card, and shove that into the video player. On your light board, just write cues to select and play the desired videos by bumping the DMX-512 channel(s) going to the v-HD-to-DMX-512. A value of '100' would select and play any media files in the folder named 'Playlist100'. It's just that easy! ~ G

Machao Orphanage

In addition to her work with people with Sickle Cell Disease, Dr. Carolyn Rowley, our VP and CFO has been the primary U.S. organizer and fundraiser for the Machao Orphanage in Makueni, Kenya.

Before Carolyn got involved, there were several kids to a bed. During the first phase, Carolyn raised funds to build a new dormitory with room for as many as one hundred children. The nearest water was an intermittent creek some distance away. The kids carried every drop of water back in buckets. The second phase raised the funds to drill a 500' well to provide clean drinking water. Since the fall of 2010, they have a hand operated pump in the compound. With no electricity, all the lighting was by paraffin candles. The third phase in the summer of 2011 brought electricity to the facility for the first time.

If you would like to help support the facility, or any of the kids directly with school tuition or other aide, more information can be found at www.machaoorphanage.org ~ G

Made in the USA

With only a few exceptions, we manufacture what we sell. All equipment which is built by Gilderfluke & Co. is manufactured in the United States of America. ~ G

GilderScript for BrightSign Video Players

The BrightSign video players are simple, completely solid state High Definition video players. Instead of using a DVD, hard drive, or other device with spinning parts for storing the video, the BrightSign players use standard SdHC or SdXc flash cards. They have no moving parts.

The GilderScript eliminates the need to configure your BrightSign player for most applications. You just drop your media files into file folders on the Sd card and the GilderScript does the rest.

You can have one or more media files that will automatically play when the BrightSign is powered up, and will also play whenever a triggered 'foreground' file isn't playing. These are called 'Background' files. Just create a folder named 'Background Loop' on the Sd card, and drop one or more media files into this folder. If there is a single media file in the 'Background Loop' folder, then it will loop continuously. If there is more than one media file, then they will play sequentially in alphanumeric order. Name the folder 'Background Loop&', and the files will play in random order.

For up to 255 'buttons' you will be using to trigger the BrightSign player, create a folder on the Sd card named 'Playlist001' (change the number on each folder to match your button numbers). Once you have created the folders, just drag your media files into them. If you put more than one file into any folder, the GilderScript will play each file in turn (in alphanumeric order) on each button press. If you add a '&' to the name of any folder, then the files within it will be played in random order. If you append a '!' to the name of any folder or file inside a 'Playlist' folder, then that folder, or that individual file will not let another file start while it is still playing. ~ G

Analog Pneumatics with V-to-P Converters

The cost of the analog valves is the chief deterrent to building animation with analog movements.

If your animation can use a valve which is slower than a true servovalve, you may be able to use a pair of low cost voltage controlled pressure regulators instead of a servovalve. An example of these are the ITV1000 series from SMC.

Attach the brown (+ supply) of both regulators to a separate 24 vdc power supply. Attach the blue wires (- commons) to the negative output of the power supply and the '-ref' output from a EFB-Quad board. Attach the white wire (0-10 volt command) from one regulator to the '- valve output' of the EFB card. Attach the white wire from the other regulator to the '+ valve output' of the EFB card. Plumb a double acting pneumatic cylinder between the outputs of both regulators, and attach a feedback pot to the EFB-Quad card as you would normally.

As the pressure in one regulator is raised, it is simultaneously lowered in the other. This has the effect of acting much like a real servovalve. ~ G
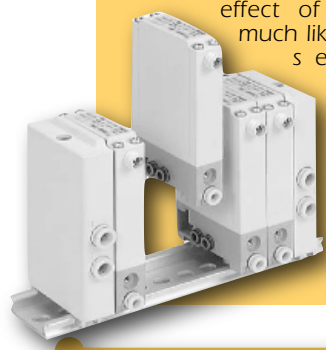
Ready-to-Go Solar

Because of its low current consumption, most GilderGear is especially well suited to being powered by solar electric systems.

You can buy all the components to build a solar power system and throw it into an appropriate enclosure (see the App. Note in the 2009-2010 GilderNewsletter), or you can get a ready-made solar system from B&B electronics.

Features include:

- Pre-assembled, pre-wired, ready to install
- Built to withstand harsh weather conditions
- Short-circuit & surge protections built-in

Just choose the appropriately sized ready-to-install solar system, mount it on a pole, throw your GilderGear inside, and it is ready to run anywhere electrical power is unavailable. ~ G

New Br-ANA Commands Make it a Breeze to Attach Wind Sensors
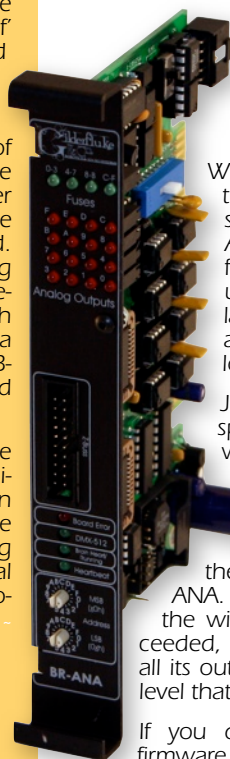
Wind sensors are typically used to tell outdoor fountains to not shoot so high if it is a breezy day. A new feature in v4.06 and later firmware is that you can configure any of the four optically isolated trigger inputs to scale the analog outputs of the Br-ANA to a lower level.

Just set the wind-speed where the wind sensor closes its relay outputs, and attach them to the Br-ANA. As soon as the wind speed limit is exceeded, the Br-ANA will ramp all its outputs to a new lower level that you have selected.

If you don't have this latest firmware, you can download it from the GilderWebsite. Drop the file onto an Sd card and insert it into the Br-ANA, and it will automatically load the new firmware into the Br-ANA. ~ G

Random and Sequential Playlist Commands

Here's a feature that has been on Sd-50s and Br-ANAs for years, but you have never been able to access until now. Using the new version of Pc•MACs, the trigger inputs for these devices will now show you these options (and more!).

The 'Playlist' options ask you for starting and ending show numbers to be triggered. Once AutoDownloaded, each time the 'playlist' input is activated, the shows within this range will be played. You can set whether they will be played either randomly or sequentially, depending on the command you chose. The shows will not be repeated until all the shows within the selected range have been played. There is also a separate 'reshuffle' command that allows you to use another input to flag all the shows within the selected range as 'unplayed'. ~ G

The Dog You Don't Have to Feed (or Clean Up After)

Our popular Sd-25s are now being used in some parts of the world as a watchdog. Triggered by a IR-Passive sensor, the Sd-25s play back several sound files of viciously barking dogs whenever anyone approaches.

If you've heard the cheap boxes that are used for scaring burglars, you know that the dog sounds like it is calling over a bad telephone connection.

With CD-Quality stereo sound reproduction, a clean-as-a-whistle amplifier equivalent to a 200 to 250 Watt linear amplifier and the ability to hold hours of sound, the Sd-25s can easily fool miscreants that can recognize the barking from cheap audio players from a mile away. ~ G
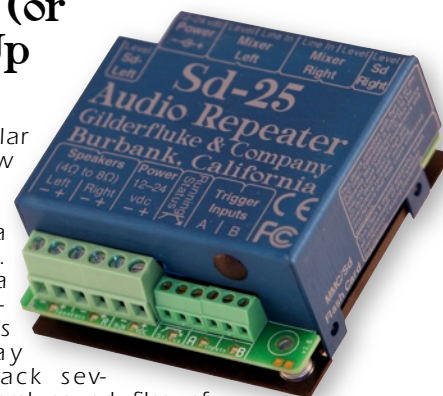
App. Note:
Build a Motion Base

One of the most popular 'App. Notes' from the last few years are the instructions to build our famous fountain-in-a-briefcase (issue #17).

For last year's IAAPA we built a small motion base for demonstrating the programming abilities of our Pc•MACs software, and the simplicity of a Gilderfluke & Co. control system when applied to a motion base attraction.

Motion bases come in many flavors. In motion base lingo, this is usually described in terms of the number of 'Directions of Freedom' or axis of movement, commonly shortened to the simple abbreviation 'DOF's. Most small motion bases are three, or less commonly, four 'DOF'. These have three or four actuators moving the motion base.

The 'Cadillac' of motion bases is a 'Six-DOF'. It has six cylinders arranged in three pairs of triangles. The motion platform can move in any of six possible directions. These are also sometimes referred to as a 'Stewart Platform', 'Gough/Stewart Platform', or simply 'Hexapod' for the six legs. This is what we will be building for our demo unit.

The actuators on any motion base can be hydraulic, pneumatic, electric, or a combination of these. In almost all cases, the actuators are controlled as closed loop proportional analogs. The control system continually monitors a position sensor on each actuator, compares the position of the actuator with the position that the control system (that's our part of the system!) is asking for, and moves the actuator to match.

Our older demo motion base was an electrically actuated hydraulic system. It was our 'British Sports Car' of demo gear. When it ran, it was really fun, but we had to tinker with it for weeks to get it to run for a weekend, and it always leaked on the shop floor. Wanting to avoid this, this new base is strictly pneumatic. Even if it leaks, we don't have to get out the kitty litter.

The actuators & valves for this motion base are from Enfield Technologies. The actuators are 1-½ bore and 6" stroke, and have built-in feedback sensors (potentiometers). Cylinders are also available with non-contact types of position sensors, which will potentially last much longer. Moving from the 6" stroke cylinders to 12" stroke cylinders or to a slightly larger bore cylinder would result in a larger base, for only a small amount more for the longer cylinders.

With 100 PSI, these will lift about 175 pounds each. With six of them working together, this base should be able to lift about 1000 pounds, but because of the angles of the cylinders and uneven loading, the actual limit is around 500 pounds. This should be plenty of umpf if you want to bolt a chair to the top and take a ride.

Because this base is pneumatic, and air is a compressible medium, this base will be a little more 'spongy' than a base that uses electric or hydraulic actuators. Using a higher supply air pressure will make it less so, but may cause problems with hoses popping off.

We wanted the ball ends to be located on the same center lines as the cylinders. We ordered the cylinders with 'universal' mount tails. Using just a drill press, we and drilled and tapped them 7/16"-16 so we could screw the tail rod ends into the ends of the cylinders.

A solenoid valve is either open or closed. The valves used for most motion bases are analog. They can open a little or a lot, as needed. The Enfield LSV05C valves we chose use a 'voice coil' to move the spools of the valves, and as a result draw more than out EFB-Quad to PID-Quad Electronic FeedBack (EFB) cards can source. We used the Enfield LSC41 feedback cards to take the 0-10 volt position commands from our Br-ANA, and close the feedback loop with the valves and cylinders. They are wired/plumbed as shown above. The '24 vdc Power' should be wired directly to the base's 24 vdc power supply connection, and not to the Br-ANA.

Enfield has a new 'S2' feedback card that you may choose to use in place of the LSC41. It adds a new control algorithm with an inside differential pressure loop. The result is better performance, less space, and lower cost. They also have a new valve with integrated electronics and differential pressure sensor. It is big enough to handle much larger cylinders.

The geometry of a typical six DOF platform is a hexagonal base and a hexagonal platform. The actuators attach to three of the corners on the base, and three of the corners on the top. Since only three corners are used on the top or bottom, the unused corners are usually truncated. This makes the base and plat-

From Br-ANA — Neg Ref / Pos Out

24vdc Power — Neg / Pos

80-150 PSI Air
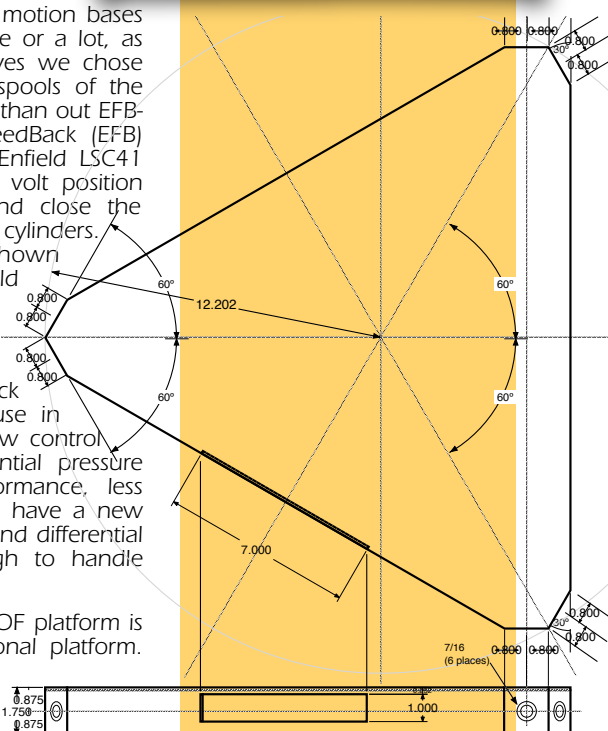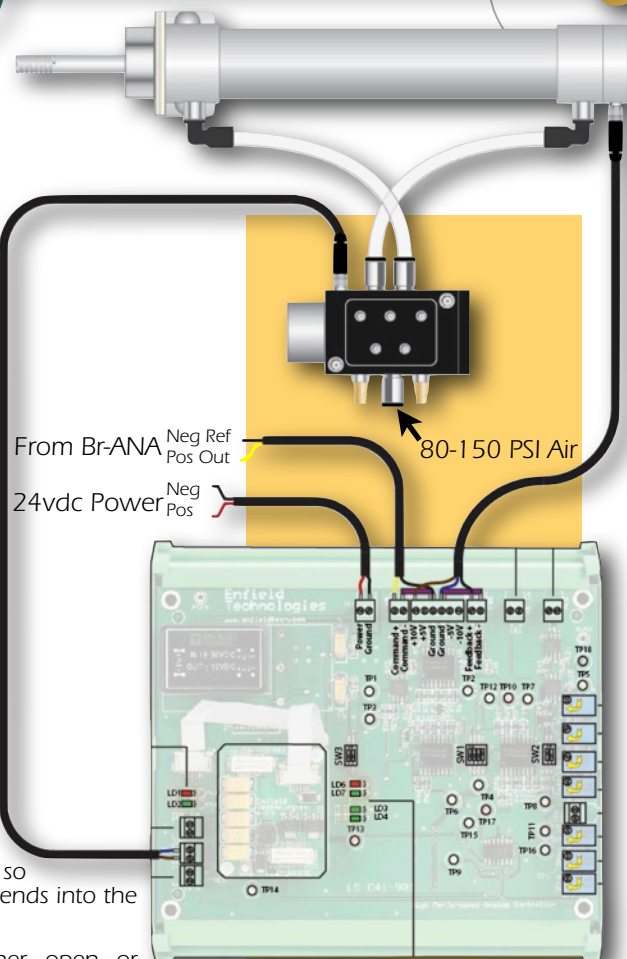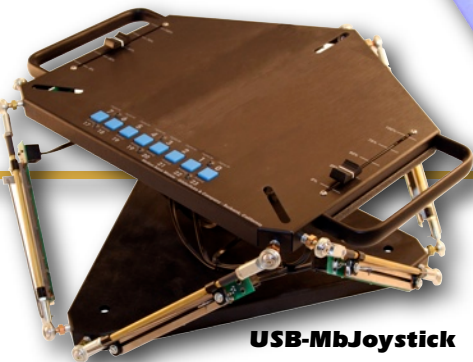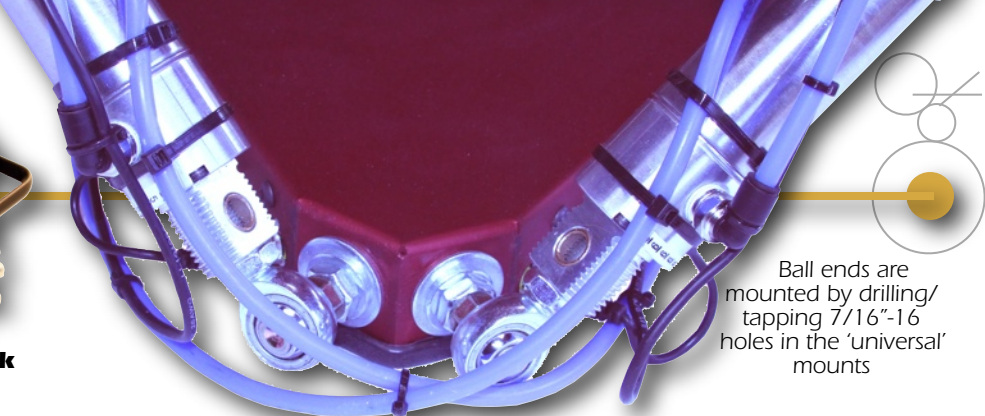
Ball ends are mounted by drilling/ tapping 7/16"-16 holes in the 'universal' mounts

Now What?

Programing Your Motion Base:

Once you have built your mini Motion Base, here's how you make it move. You will need:

- The Latest Pc▪MACs
- A PC of some sort
- Rs-422 port & cable
- USB-MbJoystick
- Motion Base Video

If you don't have a motion base video, go ride in the back seat of any roller coaster while holding your iPhone over your head to video the ride.

In Pc▪MACs, create a 'new' show & site file. Select 'Audio/Video' for sync and point Pc▪MACs at your video file. This will bring up your video while you are programming so you can match your movements to it. Add a Br-ANA to the channels list (12 bit resolution). Select your serial port and enable 'RealTime Updates' and select 'Soft Console' as your programming console. These are set under the preferences menu.

Plug in the serial cable to the base. Configure the Br-ANA for twelve bit resolutions and adjust the gain & endpoints for your base.

Open the Soft Console, assign your first six sliders to the first six analogs. Hit the 'find Joystick' button. Turn on 'manual' mode. You can now move your motion base by moving your USB-MbJoystick.

Now you are ready to hit 'Record' and 'fly' your base! You can then use the OffLine window to edit your show until it is 'perfect'. When done, save all your shows to the Br-ANA's Sd flash card. ~ G

form look more like a pair of triangles, with the platform rotated 60° from the base. If you project the corners where the actuators attach, you can see that the shapes were originally hexagons.

The size of the base is determined by the retracted length of the actuators. Viewed from the side, typical 6-DOF entertainment bases have the actuators sitting at about a 45° angle when retracted. If you calculate a right angle triangle, with the long side equal to the length of your actuator, and at a 45° angle, this will give you the lengths of each side of the hexagon base and platform. Just a tad more needs to be added to the calculated side length so there is room to attach the actuators to the base and platform. You want each pair of cylinder attachments to be as close as is physically possible to each other. In this case, we added 1.6" to the calculated length for the actuator attachments.

The base and platform of our model are both made from (almost) identical pieces of .1" thick sheet aluminum. This was water-cut and fabricated by our sheet metal supplier. The corners are welded, but after one particularly large person tested its load capacity, some of these welds opened up. We have since added some straps on the insides of the corners to prevent this in the future. Even with these straps, this base is not intended to be a 'working' motion platform. If you want to build a base that will carry heavy loads on a day in, day out basis, you will need to make it sturdier than this 'demo' model.

The difference between

the top and bottom pieces is that the top has just the six mounting holes for the six cylinders. The bottom also has holes for the Br-ANA card, wires and air lines.

The compressed air enters the motion base through the ⅜" NPT fitting on the side of the base. **The compressed air used with the Enfield valves must be extremely well filtered and dried. Any dirt or moisture will clog the valves!**

To keep the hoses between the valves and the cylinders as short as possible, the valves are 'saddle' mounted right on the cylinders.

A ring of ⅜" tubing under the base acts as the manifold. Tees branch this off through four bulkhead fittings. Two more Tees, and two 90° elbows (for the side with the BR-ANA on it) then feed ¼" hoses to the valves. The idea of this is to feed the air evenly to all the cylinders, with as little a pressure drop as possible.

Twelve 90° 10-32 elbows, twelve ¼" NPT elbows, and a little bit of hose carry the air from the valves to the cylinders. Small exhaust mufflers screw right into the valves.

We modified a Br-CC08 card cage to hold the Br-ANA. You may want to leave it intact or just use a sixty pin ribbon cable edge connector to make your own cage. The first six analogs are wired to the Enfield control boards. Power, DMX-512 and the Rs-422 serial port are wired to jacks on the outside edge of the base to make them easier to get to.

In our prototype, we used bulkhead connectors at the points where the wires to the valves or wires from the feedback pots went through the base. To simplify construction, we are recommending using standard snap-in strain reliefs instead.

We will be posting an expanded version of this article and videos on the GilderWebsite and YouTube. ~ G

Today's Shopping List

1) Br-ANA Analog Output Show Controller (Gilderfluke & Co.)
1) Br-CC08 Card Cage (Gilderfluke & Co.)
1) Ps-24vdc5a Power Supply (Gilderfluke & Co.)
6) LSV05C ServoValves (Enfield Technologies)
6) LSC41 EFB Cards (Enfield Technologies)
6) Act1b150s0600 6" stroke, 1-¼" bore (Enfield Technologies)
6) Ball Joint, 7/16"-20 Female (McMaster-Carr 60745K851)
6) Ball Joint, 7/16"-20 Male (McMaster-Carr 60745K651)
12) Nylon-insert Locknut 7/16"-20 (McMaster-Carr 97135A245)
6) Steel Thin Hex Nut, 7/16"-20 (McMaster-Carr 94846A520)
12) Washer, 7/16" x 1-1/4" Od (McMaster-Carr 90108A032)
12) Washer, 7/16" x 59/64" Od (McMaster-Carr 90126A032)
10') Self Gripping Vinyl Edge Trim (McMaster-Carr 24175K131)
2) Tube Stem Elbow 3/8" x 1/4" (McMaster-Carr 5779K686)
7) Tube Stem Tee 3/8" x 3/8" (McMaster-Carr 5779K695)
1) Bulkhead 3/8" Od Tube x 3/8" npt (McMaster-Carr 5111K206)
4) Bulkhead 3/8" Od Tube (McMaster-Carr 5779K679)
4) 3/8" Od to ¼" Tube Reducer (McMaster-Carr 5779K718)
12) Elbow ¼" Od Tube x ¼" Npt (McMaster-Carr 5779K152)
18) Elbow ¼" Od Tube x 10-32 (McMaster-Carr 5779K286)
12) Exhaust Muffler 10-32 (McMaster-Carr 4450K31)
50') Blue Nylon Tube ¼" Od (McMaster-Carr 51185K113)
10') Blue Nylon Tube 3/8" Od (McMaster-Carr 51185K222)
6) .2" Nano Connector, 90° FM Plug (McMaster-Carr 7138K21)
6) .2" Nano Connector, Male Plug (McMaster-Carr 7138K11)
1) 2.1mm snap-in power Connector (Mouser 163-1060-EX)
2) RJ-12 Chassis Connector (DigiKey TM2RG-L66-5S-150M)
1) XLR-5 Male Chassis Connector (Mouser NC5MD-L-1-B)
1) XLR-5 Female Chassis Connector (Mouser NC5FD-L-B-1)
12) Snap In Strain Relief (McMaster-Carr 74125K11)
1 set) Motion Base Sheet Metal (Base and Platform)
misc) wires, screws, nuts and other small parts

Custom Product GilderGear Labeling

If you are using a larger quantity of GilderGear, you can order the equipment with your own custom labeling. In this way, you can 'brand' the GilderGear as your own. ~ G
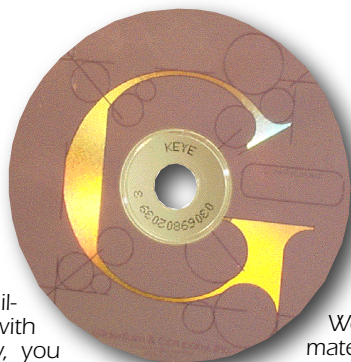
Greatest Hits On CD

We distribute all our printed material and software on a single CD-ROM. Every manual, cut sheet, and piece of software we offer is all on one disk. These are included with most orders, or are available for a nominal charge. ~ G

GilderSwag Available for Ordering

As everyone knows, there is no human being more fashionable on this planet than your typical Gilderfluke & Co. Employee.

Now you too can dress just like one!

GilderShirts, GilderChocolates, GilderMousePads and other great GilderSwag are now available from our online web store. ~ G

Classes Anyone?

The spacious quarters at Gilderfluke Towers has a permanent display area where we offer classes in GilderGear. We know that our stuff is pretty easy to learn to operate, but if you would like formal classes, they can be scheduled.

If you are interested in training on GilderGear, please contact Carolyn Rowley (carolyn@gilderfluke.com) in our California GilderOffice. ~ G

Custom Design Work

As time allows, we do custom design work. Most jobs are for clients that need a product to do a specific job that none of our off-the-shelf boards will do. Usually, these have been incorporated into products produced by our clients.

If you are interested in custom-designed equipment, please contact Doug Mobley (doug@gilderfluke.com). ~ G

Field Installation & Service

Gilderfluke technicians are available for installations worldwide. You will need to pay all the usual transportation expenses (business class or better airfare, hotel, food, and per diem) in addition to the fee for the technician.

If you are interested in field support and installation of Gilderfluke & Co. equipment, contact Carolyn Rowley (carolyn@gilderfluke.com) in our California GilderOffice. ~ G

Gilderfluke Show Plans

We are scheduled to exhibit at the following trade shows in the upcoming year. Most of the equipment described in this newsletter will be on display at these shows. We have free passes for many of them, so contact us if you would like to attend.

November 15-18, 2011

International Association of Amusement Parks & Attractions (IAAPA), Orange County Convention Center, Orlando, Florida

March 8-11, 2012

National Haunt & Attraction Show, America's Center, Saint Louis, Missouri

June 13-15, 2012

InfoComm International Las Vegas Convention Center, Las Vegas, Nevada

November 13-16, 2012

International Association of Amusement Parks & Attractions (IAAPA), Orange County Convention Center, Orlando, Florida

Our Two Most Asked Questions

In the more than twenty-eight years we have been in business, the second most commonly asked question is where our company's unusual name came from.

Eli Gilderfluke was an 'inventor' whose illustrations appeared in railroading trade magazines in the 19th Century. A precursor of Rube Goldberg in the 20th Century, he developed strange inventions for steam trains. These were things like a big scoop to catch the exhaust coming out of the smoke stack and feed it back into the engine's firebox. The verb "to Gilderfluke" something eventually came to mean improvised repairs (i.e.: "Jury-Rigging") on a piece of machinery. To the right is 'Gilderfluke's Perfected Locomotive' from the December 1897 issue of Railway and Locomotive Engineering Magazine.

The answer to the most commonly asked question is: 'No, we don't build animated figures'. ~ G
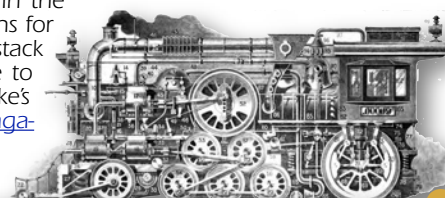
Who Are We?

Gilderfluke & Company was founded in 1983 to build Animation & Show Control Systems for theme parks, museums, and other entertainment venues. In 1988 we added Digital Audio Playback Systems to our product line, and became the first company to be able to provide the entire electronics package for your animated show or attraction.

We currently deliver an average of four or five systems a day. We are the only company that delivers complete, off-the-shelf Animation & Show Control Systems from stock. Most systems are bought by Animation Manufacturers for incorporation into their shows. They are simple enough to be installed by anyone.

Our **PC▪MACs** Animation & Show Programming Systems were the first to run under Microsoft's Windows. It is still the technological leader among Animation Programming Systems. Our 'Brick'

Show Control Systems are the largest selling Animation & Show Control Systems in the world. These are modular systems which can be used to control any size show you can imagine.

Our Digital Audio Systems are led by our **Sd-10**, **Sd-25** and **Sd-50** Industrial-Strength Mp3 players. These store audio on standard MMC/SD Flash cards for any installation where you need a sound to play reliably and with zero maintenance; forever. Our systems are modular. Systems with two to thousands of outputs are can be made with our repeaters.

Sd-50 players are also available with an option that adds eight or forty digital Show Control outputs, DMX-512, MIDI and serial ports to them. This turns them into a total Audio and Show Control playback solution. The GPS option allows shows and sounds to be scheduled, accurate to a thousandth of a second. ~ **G**

Gilderfluke
&Co.
ROBOTICS & SOUND SYSTEMS

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