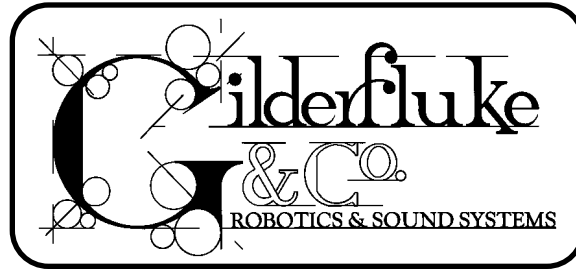


**"Always do right.
This will gratify
some people and
astonish the rest"
- Mark Twain**



**All the News
that we could
jam into a little
under 8 pages**

Views and News from the world of Gilderfluke & Co., Inc.

Fall 1998

<http://www.gilderfluke.com>

Number 8

Gilderfluke Towers

For the first time in almost ten years there is a new address for Gilderfluke & Company! Just down the street from our old GilderOffices, the new Gilderfluke Towers is right on Flower Street. This is just down the street from Walt Disney Imagineering and DreamWorks SKG's new animation studios. We can see Universal Studios Hollywood from our windows (and they can see us too).



With five times the square footage as we had at our old address, we now have the room to expand. Additional GilderEmployees have been added, and we are now accepting more 'custom' jobs that require assembly of our equipment into 19" racks and NEMA enclosures.

For those of you who haven't received the GilderMoving notices, our new GilderAddress is at the top of the page.

Audio Repeaters with PCMCIA

PCMCIA cards are small, credit card-sized computer memory devices. Unlike Eproms, they have no delicate pins extending from them, and they are just about impossible to insert improperly. Most laptop computers now support PCMCIA cards, so no special Eprom burners or other hardware is needed to program them.

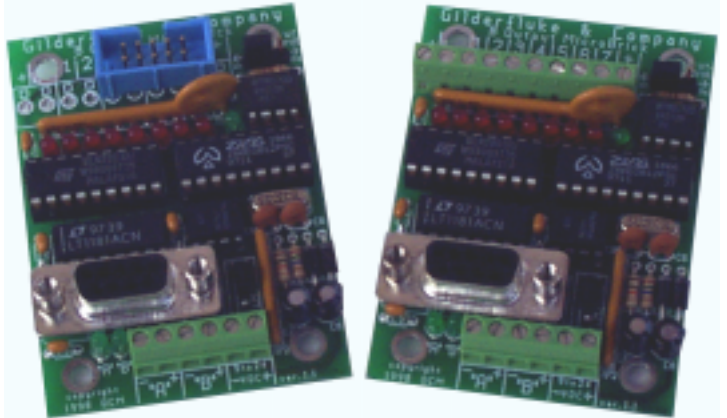


We have now released the DR-3000p and AB-3000p. These are identical to their Eprom-based brethren, with the

~ c o n t i n u e d o n p a g e 7 ~

Program-In-Place MiniBrick8

Had we only known..... Our newest animation system isn't even waiting for any advertising before jumping off the shelves. Had we only known that the demand for a simple little animation system would have been so high, we would have built it years ago. Of course we had to wait for the chips that make it possible to be developed first!



The new MiniBrick8 features eight medium current digital outputs and two optically isolated inputs. It can be used in any application for up to eight on/off control signals or, with the addition of a single channel D/A converter, one analog control signal. High current relays can be used where

~ c o n t i n u e d o n p a g e 5 ~

An Animation System a Day... That's All We Ask

We ain't nuts, but that's how many Animation Control systems we sold last year! Our total, including all Dumb Brick Systems, Smart Brick Systems, and PC-MACs Systems was over 350 animated shows installed for the year. As far as we can tell, that makes ours the most popular Animation Control Systems in the World!

And for 1998? So far we are running well ahead of last year's averages. Keep up the good work out there!

PC-MACs Input Mixing

For years we have been asked to add input mixing to PC-MACs. This would allow a single input to have an effect on more than a single output. Motion picture special effect shops could use single control to alter all of the actuators on a face to change an expression between a smile and a

~ c o n t i n u e d o n p a g e 3 ~

More PC·MACs Enhancements:

PC·MACs is the best selling Animation Programming System in the world. It is used by virtually all the major animated figure manufacturers for the majority of shows they produce. Along with the Input Mixing (see page 1), there have been a number of other enhancements to PC·MACs this year:

The Ease-In function tries to smooth out any point where you might cause the show you are programming to jump from one position to another. Examples of this are when you start or end a show playback in the middle of the show or when the time code PC·MACs is following jumps in time.

The original PC·MACs Ease-In function ran at a 10 Hz frame rate. This was largely because when it was designed, the PCs were too slow to do much better than this. The Ease-In has now been completely rewritten from the ground up. For starters, it runs at the normal frame rate of the show being programmed. It is now smooth enough that you can use it to stop a motion base in mid-show and then restart playback at any other point in the show. The motion base will simply do a nice clean fade to the new point in the show.

The length of the Ease-In can be set anywhere between 1/10th and 99.9 seconds. Instead of a simple 'ramp', it actually does a cross-fade to the new position. What this means is that as a playback is started, you will see the movements start to follow the prerecorded show. At first they will follow it sluggishly, and then as the Ease-In times out, they will begin to follow it more and more closely until they are following it exactly. If at any point during the Ease-In PC·MACs finds that all of the movements match their target positions, the Ease-In will be terminated early.

Another new feature added to PC·MACs this year is the ability to slow both the audio and animation temporarily

Brick start: 3990	Sync: <input type="radio"/> Internal <input type="radio"/> Laserdisc
Length: 00:02:04.00	<input type="radio"/> External
Rate: 30	<input type="radio"/> SMPTE Hour: ??
Site file: mule	<input checked="" type="radio"/> Audio
ow rate: 2/3x	MONOCA~1.WAV
Delay Sound	Load Audio File...
Audio playback offset: 00:00:01.04	

when working with .WAV audio playback shows. Depending on your audio card, you can use this feature to program a show at 2/3, 1/2, or other lower speeds.

This makes it a breeze to program complicated mouth movements.

When programming from a .WAV file, another enhancement to PC·MACs allows the start of the audio file playback to be offset forward or backwards in time. This is especially useful for shows that are later going to be synchronized to a free running Digital Audio Repeater that is started by a digital trigger embedded in the show file.

We added the ability to 'pause' a show during playback. This is primarily for movie special effect shots and

interactive shows where the preprogrammed animation must be stopped to wait for the 'live' actors to deliver their lines. When the appropriate time comes, the 'continue' button can be hit to start playback of the preprogrammed sequence from right where it left off.

During this pause, the control of the figure can return to the puppeteers. The Ease-In feature will keep there from being a noticeable jump in the figure.

We had a client request the ability to record longer shows. Their application is a mixed animated/live show. During the each of the show's segments where the 'live' actors are doing a number, the animation is programmed with a ten minute long 'keep alive' sequence just so they don't look like they are sleeping through all of the songs. At the end of each song the time code jumps forward to the next animated sequence. With all these jumps, it makes their show over four hours long as far as the time code is concerned!

We extended PC·MACs maximum show length to 1,000,000 frames. The new Ease-In keeps the figures from jerking when the time code jumps. We are told that this is working so well in this installation that the only clue that the time code has jumped either forwards or backwards are the changes in the digital outputs!

DC Power for AudioBricks

Our AB-100, AB-3000 and AB-3000p Digital Audio Bricks are all now being built to accept a single 9 to 36 VDC power supply input. This means that they can be used on mobile applications without having to install a DC to DC converter like our PS-DC or PSDC-3000. It is already built in!

BS-Serial Talks to Moog Motion Bases, Rexroth Servo Feedback Cards, Intelix Matrix Mixers, MIDI, or Just About Anything Else.....



BS-Serial

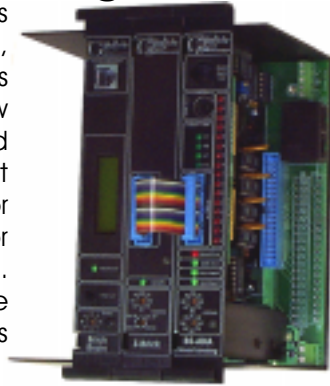
In our last issue we introduced the BS-DMX-Tx that could be used to replace a whole lighting console in any permanent installation. Its upgraded version was called the BS-MIDI-Tx. It is now called the BS-Serial because it does so much more than just MIDI!

In the last year we have added the firmware to this card to support all of Moog's electric motion bases, Intelix audio matrix mixers, Rexroth Servo Feedback cards, and a variety of other devices.

If you have something that needs to be controlled through a serial link, we can probably add support to it using this card for just a nominal Non Recurring Engineering NRE charge.

Brick Card Cage x 3

Our Animation card cages have been available in one, two and sixteen slot versions for many years. We have now added a three slot card cage. It is designed to accept a Smart Brick Brain and one or two additional Smart Bricks (or a Smart Brick and a Z-Brick). These card cages are available with screw terminals or IDS connectors.

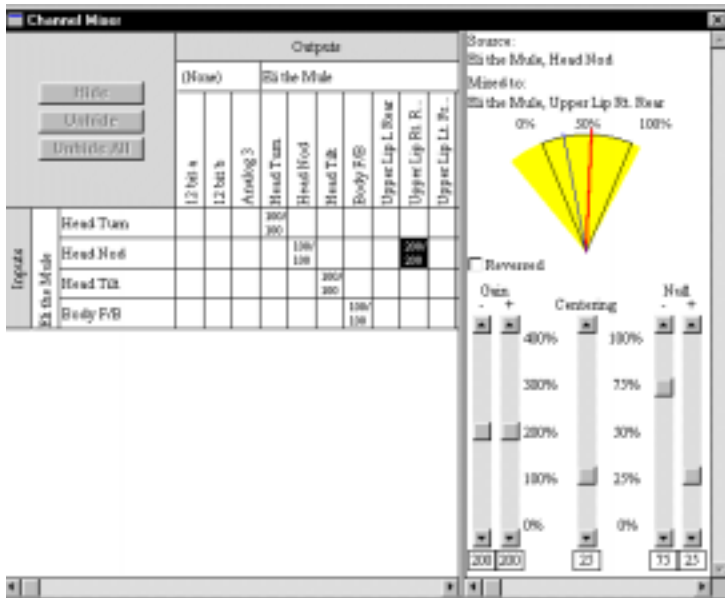


PC·MACs Mixing..... continued from page 1:

frown. Fountain companies could program a wall of analog water jets with a single input. Simulator companies could use mixing to program three or four axis motion bases in 'degrees of freedom' without having to write a kinematic routine.

PC·MACs has had the 'hooks' for doing mixing for some years now. What held us up from implementing this function was the creation of a design for the human interface. We just couldn't visualize an interface that could be easy enough to use and yet flexible enough to do everything that we wanted it to do.

Earlier this year we were approached by Kevin Yagher to propose a new control system for the next 'Child's Play' movie that was then in preproduction. We had done the controls for the last 'Chucky' movie, and this one features two figures that needed controls. Their one requirement was for 'mixing'.



We consulted with our programmers and the people at Kevin Yagher's and other F/X shops and came up with what turned out to be a powerful, and yet easy-to-use interface for mixing any input to any combination of outputs. The key was the graphic 'wedge' that shows the current mixer values and current level of the selected output. The Wedge allows you to see how much of an effect an input is having on an output, and the cumulative effect of all of the other

inputs that are being added to an output.

Along the left side of the Mixer Window are all the currently assigned analog inputs. Along the top of the window are ALL of the outputs that have been created for this show. The default condition of the mixing feeds each of the inputs to the corresponding output (the output with the same name as the input). You can then select any cell in the window and the controls for that one cell will appear at the right side of the window (along with its name, in case there is any doubt). You can then set:

- a) **Gain:** How much of an effect the input will have on this output. The gain for input values above and below 50% can be set independently, for asymmetrical gains.
- b) **Centering:** The center position for this movement. This allows you to offset the effect of this input on this output. An example of this feature's use is on an eye mechanism that can move down further than it can move upwards, and yet you want the 50% command point the be looking 'straight ahead'.
- c) **Reversed:** By checking a box, the input's effect will be inverted on the output you are setting.
- d) **Null Zone:** You can independently set an input to have no effect on an output until it has reached a certain point above or below 50%. An example of this is on a figure's upper eyelid, which will need to move upwards when the eye looks upward, but does not need to move down when the eye looks downward.

The PC·MACs mixing functions were written to process all the animation data in a thirty-two bit resolution. This allows you to mix inputs and outputs of different resolutions. An eight bit resolution input can be sent to a thirty-two bit resolution output and vice versa.

Classes Anyone?

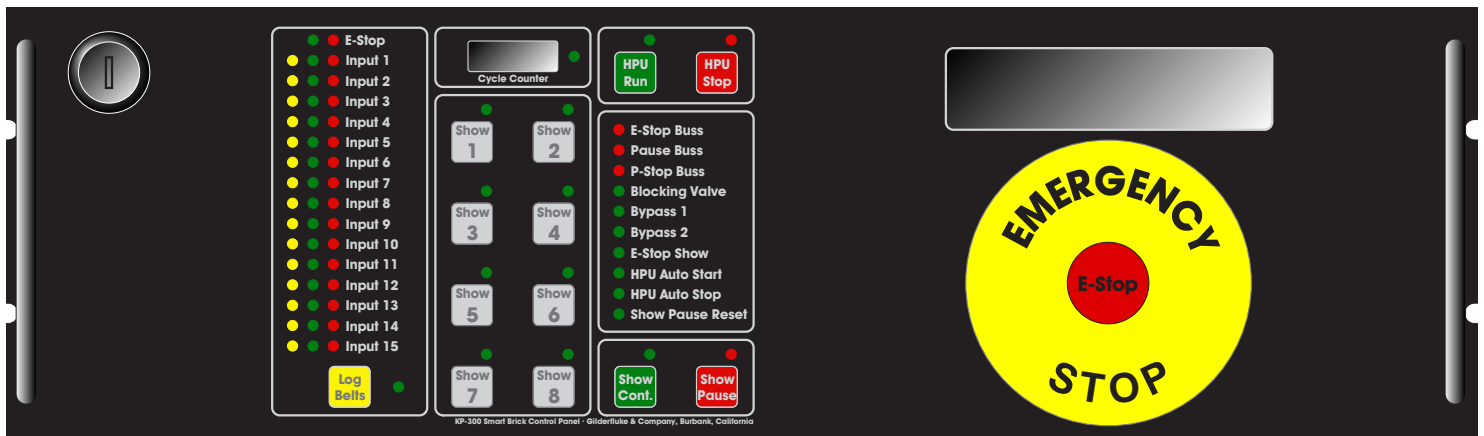
Now that we are in the new spacious quarters at Gilderfluke Towers, we have the room and a permanent display area where we can offer classes in Gilderfluke Technology. We know that our stuff is pretty easy to learn to operate, but if there is sufficient interest in formal classes, they will be scheduled.

If you are interested in formal training classes on Gilderfluke Equipment, please contact Dennis Hebert at 818/840-9484.

All Digital Servo Controller

We are currently working on a new all-Digital version of our Model Airplane-style servo motor controller. The output resolution of this card will be a full sixteen bits. All endpoint settings will be done through the serial port using any PC or Macintosh. Data will be fed to this card via DMX-512. For programming, the DMX-512 will come from a PC·MACs system. If used in a permanent installation, a single BS-DMX can feed DMX-512 data to as many as 256 axis worth of these cards.

Along with sixteen bit output resolution, the outputs will be updated at a full sixty Hertz. If data is being fed to the servo card at a lower frame rate, it will over sample them to keep the outputs running smoothly (like the new BS-ANA).



Motion Base Control Panel

The new KP-300 has all the controls that are needed to run any motion base or other Smart Brick system. It mounts in 5-1/4" of standard 19" rack space. Operator controls include buttons for starting and stopping the Hydraulic Power Unit (HPU), pausing and then continuing a paused show, for 'logging' occupied seats, and for selecting and playing up to eight different shows.

A solid state counter records the number of show cycles that are run. Shows that are run with the HPU off or while the system is E-Stopped are not counted. The show cycle count is retained even during power outages.

The KP-300 features fifteen safety inputs, plus an onboard E-Stop button and keyswitch that can be used to lock the system. All of the safety inputs are 'fail safe' (they want to see a closure on them and will be triggered by any wire break). Each safety input can be set to force the system to enter an E-Stop condition, pause the show, or turn the HPU off (if there is one) when an opening occurs. The E-Stop button and keyswitch on the KP-300 always force an E-Stop condition. More safety inputs can be added if needed.

Safety inputs that would trigger an E-Stop condition would include only critical sensors. An example of these would be a low hydraulic fluid level sensor. If the motion base is running low on oil, this would trigger an immediate E-Stop, and as long as the oil level remained low, the KP-300 would not let you start the HPU. All E-Stops turn the HPU off. The show always has to be started over from the beginning after an E-Stop.

A pause input would be used for less critical sensors. An example of this is where a seat belt was opened by a rider. The show would instantly be paused and could only be continued by the operator when the condition that caused the pause had been cleared. Alternatively, if after the pause was triggered the operator deemed it necessary to evacuate the attraction, he could call up a show that parks the motion base or just E-Stop it to bring it home.

Door sensors are actually a point where a pause is generally safer to use than a full E-Stop. If a door is opened, instead of returning to home position the motion base will just freeze. This is less likely to take a leg off someone who is trying to step through the door.

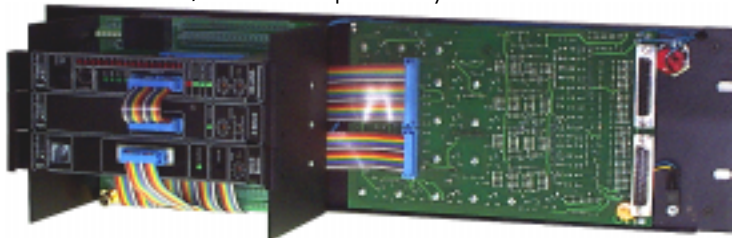
Two E-Stop Buss bypass busses are available from the

motion profile program. These are used to temporarily disable inputs that might otherwise cause an error condition to be flagged. An example of their use is on the door sensors. During the motion base 'flight', a door sensor should trigger an error condition (either a pause or E-Stop), but during the load/unload times it should not. For this reason this input would be bypassed during load/unload times by one of the bypass busses.

Seat belt logging allows any input which has been wired to a seat belt to be ignored once it has been logged as an unoccupied seat. The seat belt logging can be done from the KP-300, remotely via a switch closure, or automatically as part of the motion profile program.

Each safety input as well as the built in E-Stop button and keyswitch have indicator LEDs that show their current status. A green light means that the input is OK. A yellow light means that the input has been logged as an unoccupied seat belt input. If an input opens and triggers an error condition, then a red LED will flash next to that input to flag it as the one that caused the failure. This allows you to catch short lived error conditions like a HPU level sensor kicking an E-stop for just an instant.

Because many of the functions of the KP-300 are safety related, the KP-300 has no CPU of any kind. With no microcontroller, there is no possibility of a software crash.



KP-300 w/Smart Brick System Installed

With the addition of a three slot card cage (which mounts on the back of the KP-300), a Smart Brick Brain, Analog or Serial Output Smart Brick (depending on the type of motion base you are running) and a Z-Brick, the KP-300 becomes a complete motion base control system. We will be offering complete 'motion base' control packages that include all the above items mounted, configured and ready for installation to our OEM motion base clients. When ordered in this way, the small LCD that normally is mounted on the front of a BS-BRN-CRD2 is replaced by a large format LCD display on the front of the KP-300.

Analog Smart Bricks Upgraded

We have now upgraded our sixteen channel analog Smart Brick to automatically update its outputs at 120 Hz, no matter the frame rate you feed it. This is four times faster than typical animation outputs are updated! It makes analog movements smoother than ever before. In some cases, this even allows you to set the gain of your servo loop hotter to follow the movement even more closely.

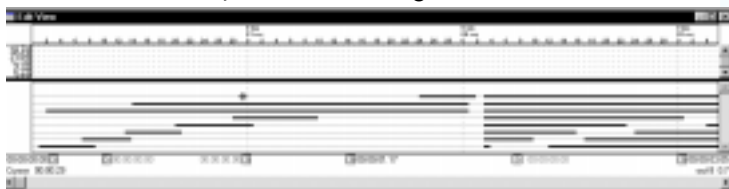
A second new option on the BS-ANA can be used in any application where there is a possibility of jumping from one point in a show to another. Examples of this are in interactive shows where the shows can jump from one point to another when triggered by the audience. This will normally cause analog outputs to 'jump' to the new levels. The new Ease-In feature on the BS-ANAs allows them to smooth out any jumps in any of the outputs. This is similar to the Ease-In features in PC-MACs, but is handled at a level local to the outputs.

An Ease-In will be triggered by DMX-512 or Brick Net signals starting or stopping, or by any jump in the show of more than five frames forward or any number of frames backwards. You can set the maximum Ease-In time for anywhere from one second to thirty seconds. Each channel that is set to Ease-In will ramp towards the new value it is being commanded to until it reaches or crosses this new value. Each channel will drop out of Ease-In and start following their new commanded values as soon as they can.

New MiniBrick8..... continued from page 1:

output capacities beyond the MiniBrick8's 150 ma. continuous / 500 ma. peak current capacities are needed.

Programming the MiniBrick8 is as easy as pie! The only tools you need are a Windows PC, a standard serial cable, and our easy-to-use PC-MACs Animation Programming software. You just draw the sequence you want to see on the PC's screen, just like a timing chart. You draw a line



where you want an output to be on, and don't where you don't. Analogs are drawn in the pane above the digitals. When done, all the shows are sent to the MiniBrick8 through your PC's serial port. This takes about twenty seconds.

If you need to make any additional changes in the show, you can make them and download again. The



memory on the MiniBrick8 is rated for about 50,000 download cycles and a data retention (without power!) of at least forty years. A 'write protect' jumper can be used to lock your shows against any accidental changes.

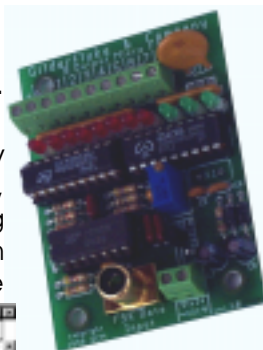


Frame rates supported are from one to one hundred frames per second. The standard memory has a capacity of over thirty-two thousand frames. This translates into at least eighteen minutes at thirty frames per second or thirty-six minutes at fifteen frames per second. The memory can be divided into as many as 256 different shows. Lower frame rates yield longer show capacities. Different shows on the same MiniBrick8 can each have different update rates. This allows you to have all of your main shows running at fifteen or thirty frames per second, separated by 'delay' shows that tick along at one or two frames per second.

The two optically isolated inputs to the MiniBrick8 can be configured to select and start any show, pause (or unpause) any show that is in progress, or do nothing.

The MiniBrick8 measures 2" x 2-3/4". It mounts on standoffs or in standard Augat Snap Track. It runs from any DC power supply from 9 to 24 VDC.

Mini FSK Playback Unit



It looks just about like the MiniBrick8. It is the same size and mounts on the same Snap Track. Its outputs and power supply requirements are identical.

The Difference? While the MiniBrick8 stores all of its configuration and show data on an onboard EEprom, the FSK-8 uses data stored on an external audio media. This can be as simple as an audio tape, but more commonly now is a CD, Digital Audio Repeater, or other low maintenance form of audio storage.

Data encoded onto one of the audio tracks contains all the animation commands for the FSK-8. The other track typically contains the audio for the show. When the audio plays, the show will run.

The FSK-8 is designed for point of purchase and other small scale shows. When running from a CD, one of its best features is that the show programming and audio can be changed by simply putting in a new CD. This is something so non-technical that even a store clerk can handle it.

PC-MACs Tip: Slow Speed LaserDisk Programming

Motion base installations most commonly use LaserDisks for storing the video image. While programming, PC-MACs is locked to the LaserDisk player and uses it as its time base. Because Motion Base shows tend to move pretty fast, it would be convenient to be able to program them at a slower speed as you can now with shows that use a .WAV audio file for playback (see page 2).

Luckily there is a little trick you can use to do this. Most LaserDisk players like the Pioneer LD-V8000 have commands that will let them play at a reduced frame rate. Since the PC-MACs System is locked to the LaserDisk, it will also run at this same reduced frame rate.

All you need to do is temporarily change the start string sent to the LaserDisk player from normal 'play' to the low speed version of the 'play' command. In the case of Pioneer LaserDisk players, this means changing the 'PL' in the start string to a '30SPMF' for 1/2 speed, '20SPMF' for 1/3 speed, '15SPMF' for 1/4 speed, or '10SPMF' for 1/6 speed.

Dimming on the Cheap

Dimmers aren't cheap. A 12 channel ETC or Strand dimmer pack can cost upwards of \$3000. That's why many lower budget shows are forced to use relays to switch their lights on and off. If they could afford dimmers, they would.

Several options are now available. The first are analog input/output solid state relays. We resell one as part number SSR-25A/A. This is a relay which is rated for up to a 25 amp load at 100 to 240 VAC. These can be used singly, or in sets of four when used with our SSR-FS/A fanning strip. This fanning strip takes care of the primary wiring when attaching to an analog output cable from a BS-ANA. You will still need to mount the relays in an appropriate enclosure with fuses or other circuit protection devices and possibly some EMI/RFI filtering.



There are also now low cost DMX-512 dimmer packs. Typically these feature four or so channels of 600 to 1000 watts per channel capacity. DMX-512 dimming is an especially good option for motion base applications. All of our systems that are used in motion base applications are already spitting out DMX-512, whether you are using it or not. That means that the lighting control is 'free'.

Florida, Anyone?

We are considering opening an Orlando sales and service office in the next year or so. If anyone would be interested in such a position, please contact us.

Reliable Servo Motors, part 2

Model airplane-style servo motors are typically used for short lived shows and movie shoots. This is because most airplane-style servo motors typically only last a few hundred hours. In the last issue of our newsletter we introduced you to the servos made by CK Design (voice: 805/522-3750 fax: 805/522-3750). This month we are going to show you some servos made in Germany by Multiplex.

Many of these servos are direct drop in replacements for the standard servos you are used to. The difference is that where the standard servos are rated for life spans of only

hundreds of hours, the Multiplex Servos are rated for upwards of 400,000 hour lifespan. They are also very red.



Their mc/v2 series of servos motors use a microprocessor running a PID algorithm for feedback instead of the typical analog circuitry. This gives

the servos a strength and holding power that has to be seen to be believed!

You can also plug in a simple adapter and 'talk' to these servos from a PC or handheld programmer to set the speed, center points and endpoints for each servo motor. This means that you can calibrate each servo so that when you need to replace one in the field, the replacement will match the original EXACTLY! This is something that was simply impossible to do using servos with analog feedback.

We had been introduced to Multiplex servo motors many years ago. The only problem with them then was that the sole US distributor was a model airplane purist. He literally refused to sell these servo motors to anyone who wasn't going to use them in a model airplane!

Multiplex Servos are now distributed by Kariton Spindle of Critter Bits (voice: 818/785-2401 or 800/375-1312, fax: 818/785-3946). He will sell them to you even if you aren't building a model airplane.

Digital Output Smart Bricks

The standard Digital Output Smart Bricks have now been upgraded to accept Eproms of up to 27C080 size. This allows shows of up to 1,048,576 frames long. This is over nine hours of show capacity at thirty FPS! These Smart Bricks are also available with a DMX-512 input option.

Some Atchley Parts Available

Although we no longer distribute Atchley Servo Valves and actuators, we still have a small stock of parts available. Most of these are the Mechanical FeedBack Actuators which combine an air cylinder, valve and feedback in one compact package. Although the prices of these parts all doubled, we still have them available at the original prices. Once these are gone, they are gone. You might want to pick up a couple of these cylinders as spare parts.

Field Installation & Service

Gilderfluke technicians are available for installations worldwide. For installations outside our immediate area, you will need to pay all the usual transportation expenses (business class or better airfare, hotel, food, and a reasonable per diem) in addition to the fee for the technician.

Our Animation Control and Digital Audio Systems are designed to be as easy as possible to install. With hundreds of our systems installed each year, we are asked to actually go on site only a few times each year.

Motion Base 'Blocking' Valve

One thing most hydraulic motion bases have in common is that they need a way to get them back to their parked position if there is a power failure or E-Stop event.

Typically this means that along with the servo valves that control the cylinders that move the motion base, there are secondary solenoid valves that bypass the servo valves and slowly lower the motion base when power is removed from them (they open when power is removed so that they 'fail safe' in the event of a power failure). These are typically referred to as 'blocking valves', because they block the motion base from moving unless they are energized.

The blocking valves are additional hydraulic parts that have to be added to each cylinder of a motion base. This is an additional expense that most motion base manufacturers would rather forgo.

We have developed an electronic 'blocking valve' that can take the place of the actual blocking valves in many motion base applications. It is simply a 'super capacitor' and relays that provide an independent voltage to the servo valves, even if there is a complete power failure. The voltage delivered to the valves can be adjusted to set the speed at which the motion base will return to home during an E-Stop. The 'electronic blocking valve' will provide power to a typical servo valve motion base for over five minutes, so this should be plenty of time for the motion base to reach its 'home' position.

Please note that the only thing an actual blocking valve has over the electronic blocking valve is the ability to return the motion base to home if there is a servo valve failure.

PCMCIA for Audio Repeaters..... continued from page 1: exception that they are designed to accept a single PCMCIA card for audio storage (expansions are available).

Although PCMCIA cards have long promised lower costs and longer storage capacities, they are only now starting to deliver on this promise. Linear flash PCMCIA cards with capacities of up to sixty-four MBytes are now available from Intel. This is equal to sixty-four 27C080 Eproms in one package! Each can hold approximately forty-eight minutes of mono CD-Quality (44.1KHz sample rate, 16 bit) compressed sound.

Some clients have reported problems with PCMCIA cards disappearing. After all, they are expensive, small and very useful to anyone who owns a laptop computer. For this reason they are safely installed inside our AB-3000p and DR-3000p. The repeaters must be powered down and the

case removed (for the AB-3000p) or removed from the card cage (for the DR-3000p) to access the PCMCIA cards. This should at least limit casual thievery.

Gilder WEB Page

Our World Wide Web page continues to be astonishingly popular. The number of download 'hits' we are receiving surpasses our wildest expectations.

Price lists, Manuals, Cut Sheets and even these newsletters are available 24 hours a day, seven days a week from anywhere in the world at:

<http://www.gilderfluke.com>

Gilderfluke Show Plans

We are scheduled to exhibit at the following trade shows and conventions in 1998 and 1999. 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 go.

Sept. 23-25 1998	World Gaming Expo, Las Vegas Convention Center, Las Vegas, Nevada
Oct. 8-10 1998	World Waterpark Association, Orange County Convention Center, Orlando, Florida
Oct. 15-17 1998	Fun Expo, Orange County Convention Center, Orlando, Florida
Nov. 13-15 1998	LDI (Lighting Dimension International), Phoenix Convention Center, Phoenix, Arizona
Nov. 18-21 1998	IAAPA (International Association of Amusement Parks and Attractions), Dallas Convention Center, Dallas, Texas
March 1999	Halloween Expo, Rosemont Convention Center, Rosemont, Illinois
June 1999	Show Biz Expo, Los Angeles Convention Center, Los Angeles, California

Application Notes

We are often asked to help our clients with specific projects and questions. If we get asked for the same question more than a few times, our 'stock response' will usually evolve into an 'application note'. The subject of these range from "How to hook up pneumatic cylinders" to "How to build a simple programming console" to "How to attach an animation system to a remote control".

Who knows, even if your application seems pretty bizarre, we may well have the answer in one of our application notes. Just give us a call to find out.

Our Two Most Asked Questions

In the fifteen or so years we have been in business, the second most commonly asked question is where our company name came from.

Eli Gilderfluke was a cartoon character who appeared in railroading trade magazines in the middle of the 19th century. More or less a precursor of Rube Goldberg, 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 answer to the most commonly asked question is: **'No, we don't build animated figures'.**

Who Are We?

Gilderfluke & Company was founded in 1983 to build Animation Control Systems for theme parks, museums, and other entertainment venues. In 1988 we added audio 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 one Animation Control Systems day. We are the only company that delivers complete, off-the-shelf Animation Control Systems from stock. Most of our systems are bought by large Animation Manufacturers for incorporation into their shows.

Our PC·MACs Animation Systems are the first to run under Microsoft's Windows. It is the technological leader among Animation Programming Systems. Our 'Brick' Animation Control Systems are the largest selling Animation Control

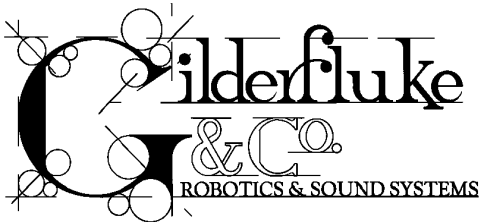
Systems in the world. These are modular systems which can be used to control any sized shows you can imagine.

Our Digital Audio Systems are led by our DR-3000 and AB-3000 series of Repeaters. These store CD-quality audio on computer-style memory for any installation where you need a sound to play reliably and with zero maintenance; forever. From two to thousands of outputs are available.

Our DR-50 and AB-50 MiniRepeaters are used when you need to store one or more relatively short sounds. Their audio quality is about the same as a new cassette tape. The stand-alone AB-100 can be used for longer spiels.

Our Intelligent Public Address Systems can be used in any application where you need 8 to 256 audio output zones. Any PA announcement can be sent to any output or combination of outputs. Each output has its own corresponding Background Audio input. Up to 256 PA stations can be attached to each PA System.

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- **Gilderfluke Towers**
 - **Program in Place MiniBrick8**
 - **PCMCIA Audio Repeaters**
 - **Animation System a Day.....**
 - **PC·MACs Input Mixing**
 - **PC·MACs Ease-In & .WAV**
 - **DC Powered AudioBricks**
 - **BS-Serial Repertoire Growing**
 - **Three Slot Brick Cage**
 - **Classes Contemplated**
 - **All-Digital Servo Controller**
 - **KP-300 Smart Brick Panel**
 - **Analog Smart Brick Upgrade**
 - **Mini FSK Playback Unit**
 - **Dimming On the Cheap**
 - **Slow LaserDisk Programming**
 - **Florida Also Contemplated**
 - **Reliable Servomotors, part 2**
 - **Digital Output Smart Bricks**
 - **Motion Base 'Blocking Valve'**
 - **Gilderfluke Show Plans**
 - **Our 2 Most Asked Questions**
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