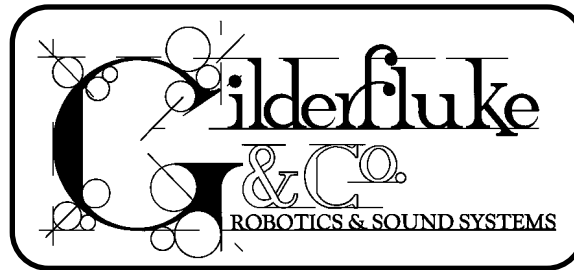


"Always do right.
This will gratify
some people and
astonish the rest"
- Mark Twain



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

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

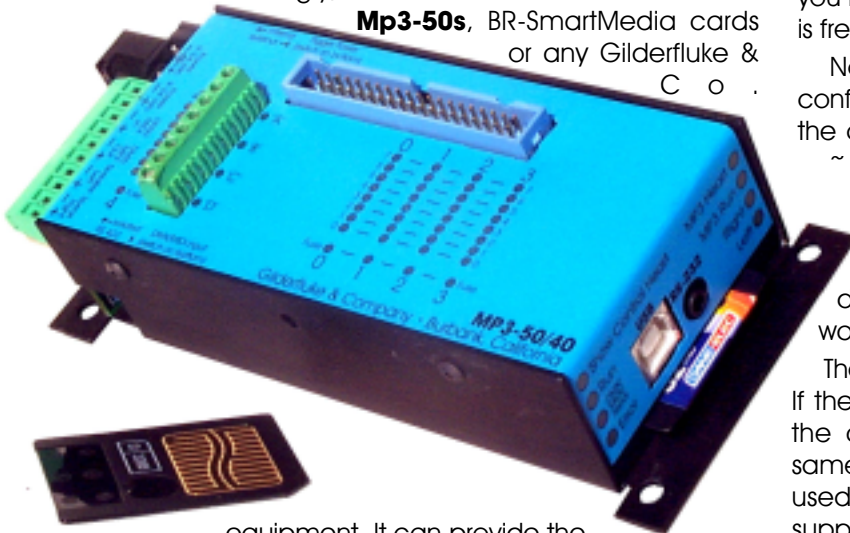
Winter 2002 - 2003

<http://www.gilderfluke.com>

Number 11

Mp3 Audio Playback & Show Control in One Very Small Box

The **Mp3-50** is a complete audio playback box. It uses a SmartMedia card to hold audio files stored in the standard Mp3 format. With no moving parts to wear out, the **Mp3-50** should well outlast the speakers it is attached to. The **Mp3-50** can be used singly, or in combination with additional **Mp3-50s**, BR-SmartMedia cards or any Gilderfluke & Co.



equipment. It can provide the audio for animated shows and displays, fountains, fireworks, safety announcements, advertising, alarm systems, window displays special effects, signs, clocks and carillons, or anything else that needs a sound to be played back upon command.

Most of our Digital Audio Repeaters have had some extra 'headroom' in their cases to allow for memory
~ continued on page 6 ~

BR-ANA: A Farewell to Eproms!

Every few years, each Gilderfluke & Company product gets redesigned to keep it as up-to-date as possible. This year was the turn for the **BS-ANA**. This was the very last card from Gilderfluke & Company which used Eproms for show data storage. Now all current Gilderfluke & Company products can be programmed-in-place, or using removable Flash SmartMedia.

The **BR-ANA** is used when you need to control anything that needs a 0-10 VDC analog control voltage. These include animated shows, lighting, motion base simulators,
~ continued on page 4 ~

~~HyperTerm~~ GilderTerm

In the past we have recommended using just about any terminal program with our equipment. Typical of these is HyperTerm, which comes with Windows. Now we have released our own terminal application. It comes preconfigured for use with all Gilderfluke & Company equipment, and has many of our commands built in. All you need to do is choose the serial port to use. Best of all, it is free for download and comes on all GilderCDs.

No longer do you need to type 'm5AA5' to access the configurations of one of our cards. Just enter the address of the card you want to configure, and press the 'configure'
~ continued on page 4 ~

19" Cage for Mp3-50s

With the **Mp3-50s**, we wanted to avoid having different models for card cages & standalone. We also wanted to keep the cost of the cage as low as possible.

The end of each **Mp3-50s** is held in place by two screws. If these are unscrewed, it can be removed, along with all the audio, power and DMX-512/MIDI connections. The same two screws, but inserted the other way around, are used to hold it in the **Mp3-50-CC10** card cage. Power supply connections are bussed between all cards in the cage, and the DMX-512/MIDI serial port is daisy chained between the cards. The entire **Mp3-50** (case and all!) can then be plugged into the **Mp3-50-CC10** card cage.

The **Mp3-50-CC10** card cage will hold any ten **Mp3-50**, **Mp3-50/08**, or **Mp3-50/40**. The Show control connectors on the **Mp3-50/08**, or **Mp3-50/40** are not brought out the back plane. These will need to be connected using ribbon cables and wires, just as you would without a card cage.

'They'll tear this place down before you have to replace these again....'

About six years ago, we were contracted to supply control systems to a project on the East Coast. The control requirements were for three very large (40+ seat) motion bases, a preshow, and a light show that operated off the roof of the building. This was not a large installation. It could all be controlled with five of our **BS-ANA** Analog 'Smart'
~ continued on page 2 ~

Bricks, three **Z-Bricks** and five **'Smart' Brick Brains**.

We went to the site for a couple of days to train the client in how to program the shows. We ended up staying for the whole installation after the contractor who was to install our equipment wasn't able to fulfill his contract.

This turned out to be a lucky thing. There were delays in the installation, and mechanical problems with the motion bases, as well as a heck of an interference problem the motion base cylinders. Even with all power removed from the motion base and the wires disconnected, a slowly oscillating signal of about a volt would be coming out of the Penny & Giles feedback transducers. These were built right into the hydraulic cylinders. Once the motion base was powered up, this signal caused the base to 'breathe' up and down an inch or two, even though the command signal didn't change a wit. We traced this down to the large antenna tower on the adjacent building. Our first clue to this source was that when the lights were off, you could hold up a fluorescent light bulb and it would glow.



Model of Manhattan. Smart Brick used to control video, lighting & sound

There was a lot of power coming out of that antenna next door!

Other problems were that few allowances had been made for door sensors and other safety sensors that any motion base should have. We added these, using locally available parts. The Radio Shack in the basement shopping mall was the source of many small parts we needed. Since we had come out for training, we hadn't even brought any tools. Even these were from the 'Shack. Eventually the system was completed and ran with minimal service.

After five years of operation, the control panels, which had been provided by the original contractor, had worn out. These used 16mm industrial control buttons and indicators. The operators had discovered that if they twisted the buttons around hard enough, it would short out and/or break the wires inside the panel. The operators would then get a break from work until the control panel was repaired.

The client contracted us to replace the control panels during the summer of 2001. Since the initial installation, we had developed the KP-300. This is an operator panel that is designed for use on motion bases and other Smart Brick installations. One of the biggest problems that this client had was that when something would cause the motion base to E-Stop, they had no indication of what it was that caused the problem. The KP-300 would solve this. With its fifteen safety inputs, these would be wired to the doors, aisle sensors, hydraulic pump, building fire system, and

anything else that would trigger an E-Stop or show pause. Whatever triggered the problem would leave a red light flashing next to it. We used the original control system with only a slight reprogramming to accommodate the KP-300.

The original aisle sensors in the motion bases, which were used to sense when a rider had gotten up while the ride was in motion, were under carpet switch mats. These had proved unreliable, and our client had replaced these with retroreflective light beam sensors. Unfortunately, these were also from the Radio Shack downstairs. Although suitable for ringing a bell when someone enters a store, we discovered that these would not pick up anyone wearing light colored clothing. To say the least, this is not a good feature for a safety sensor!

Before we would sign off on the safety of the motion bases, we insisted that the aisle sensors be replaced. We specified some Allen Bradley 'through beam' sensors. To justify them to the client's management, we told them that 'they would tear down the building before these would ever need replacement'. It took a day or two to get the sensors, and

another day or two to install them.

The original installation had E-Stopped if someone stepped onto the aisle sensors or opened one of the doors. This would immediately park the base at its 'home' position and the show would need to be started over from the beginning. We set up the KP-300 to simply 'pause' the show under most error conditions. The base freezes in the current position. This is much safer than moving quickly to the parked position. 'Pausing' also has the tremendous advantage that the show can be 'continued' once the error condition had been cleared.

About three months after we completed the installation of the KP-300s, the building was 'torn down'. This was on September 11, 2001. The installation had been on the observation deck on the 107th floor of the South tower of the World Trade Center.

I had spent almost five weeks atop the WTC during the initial installation. Toni Brown from our East Coast/Florida office had done most of the service calls. We had spent the better part of two weeks on top of the tower during our last trip. During these trips, we had the opportunity to explore from the bowels of the building all the way to the very rooftop, including many of the backstage areas. The memory of those who were lost, and the sights, smells and feel of the place will remain with us always.

Doug Mobley

Networking Gilderfluke

Networking allows you to tie together a number of different pieces of equipment and access them from anywhere on the network. In the past the network would only stretch as far as the wires it was attached to. Now, using the Internet and/or dial up networking, systems can be managed from anywhere in the world.

Many clients don't know that 'Networkability' is a standard feature on just about all of Gilderfluke & Company's Show Control Systems and Audio Repeaters. This is not a new feature, but something we have put into almost all of our designs for the last 15 years.

The built in networking on Gilderfluke & Company equipment uses the most common industrial standard in the world. This is RS-422. It is so common that many other industrial busses (DMX-512, DeviceNet, etc.) are actually RS-422 or its close cousin, RS-485.

You can run a RS-422 network about a mile. In most cases, this is enough to network a whole theme park. This compares favorably with 50 feet for MIDI or RS-232 lines, or 320 feet for Ethernet.

Terminals, touch screen operator consoles, PLCs, and other Gilderfluke & Co. equipment can be dropped in anywhere along the length of the network. Because it is such a common standard, there are lots of boxes which will let you do neat tricks like transmit it wirelessly, over optical fibers, or around the world via phone lines or the Internet.

Dial up and Internet modems are made by a number of different companies. Most dial up modems use RS-232 ports, and will need a RS-422 converter. Some 'industrial' modems come with RS-422 ports, but are priced a good bit higher.

Most Internet modems have serial ports which can be switched to operate on a four wire RS-422 network like ours. They have a serial port which is attached to our network, and a RJ-45 jack to attach them to an ethernet connection and through the ethernet to the Internet. You assign the modem an IP address, and load a driver on your PC. This makes the Internet modem appear as though it were a serial port on your local computer, even though it might be located on the other side of the world. Once connected, you can monitor, configure or control the remote system from anywhere you can get on the Internet.

<http://www.bb-elec.com> has several Internet and dial up modems available.

Internet Modem



Mp3-50 with an Atomic Clock

The **Mp3-50/08** and **Mp3-50/40** are available with an optional real time clock. Not just any clock, but a clock which is synchronized with one of the most accurate atomic clocks in the world.

How is this possible? The U.S. Naval Observatory maintains the time standards for the United States. From a transmitter in Colorado, a shortwave radio signal is sent out carrying this time information. This signal can be received over most of North America. It is accurate within 1 second per each billion years.

The **Mp3-50** configuration allows you to enter a series of schedules, and then a calendar which sets which schedule is used on each day. This allows you to set exactly what will be played a full year in advance. Because the schedule and calendar is carried on the SmartMedia card, you can send out and install new schedules as easily as sending out a new SmartMedia card and plugging it in.

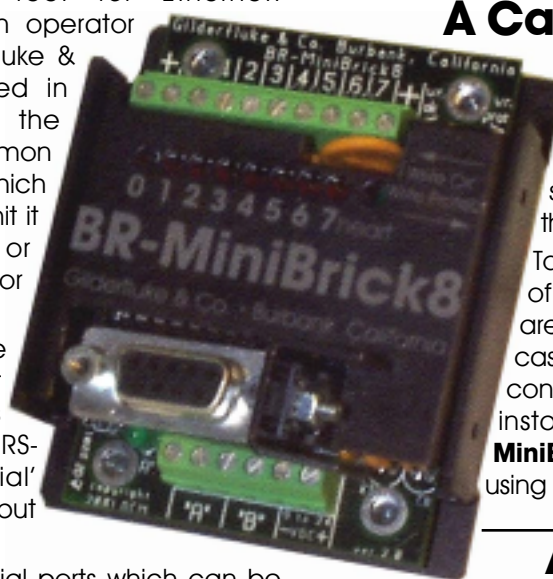


'Atomic' Clock

A Case for BR-MiniBrick8s

Our biggest little control system is our **BR-MiniBrick8**. It is a small card that has two inputs and eight digital outputs. At only \$150, it is the typical starting point for people wanting to get their feet 'wet' in show control systems.

To help protect it from the slings & arrows of outrageous fortune, **BR-MiniBrick8s** are now available with an optional metal case. The wiring terminals, LEDs and RS-232 connector extend through the case so that installation is as easy as ever. A **BR-MiniBrick8** in its case can be mounted using either screws or Augat 'snap track'.



Application Notes

We are often asked to help our clients with specific projects and questions. If we get asked 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".

Our most popular is an application note on 'How to hook up your first Show Control System', for beginning users.

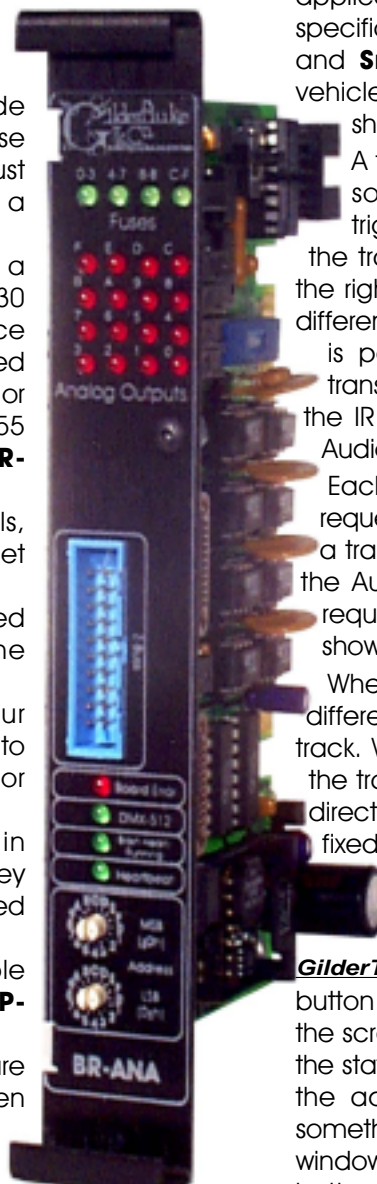
Who knows, even if your application seems pretty bizarre, we may well have the answer in one of our application notes. Just give us a call to find out.

BR-ANA..... continued from page 1:

pneumatic and hydraulic systems, special effects, signs, fountains, and more.

The BR-ANA features include:

- Sixteen 0-10 volt outputs with 8 or 12 bits of resolution.
- Outputs are oversampled to 120 Hz, no matter what the data input rate is. This makes the outputs smooth enough to run even the largest motion bases.
- Analog endpoints can be adjusted anywhere within the 0-10 volt output range, and even reversed without losing resolution.
- Stores and transmits up to 256 channels of DMX-512.
- Accepts DMX-512 or serial RealTime data from a PC•MACs system during programming. Can be used as a part of a permanent PC•MACs system. Error checking prevents glitches from bad data.
- Operates as a 'Smart' Brick or 'Dumb' Brick. Use 'Smart' Brick Mode when you are using a 'Smart' Brick Brain as a time code reader to synchronize with an external source of time code (LaserDisk, DVD, Smpte, etc.). Use 'Dumb' Brick mode when you just need it to trigger and play a prerecorded show.
- One MByte of Flash memory for a capacity of about 37 minutes at 30 FPS and sixteen channels. Once downloaded, show data is retained for approximately forty years, with or without power applied. Up to 255 shows can be loaded onto a **BR-ANA** at one time.
- Indicator LEDs for output levels, Heartbeat, DMX-512 and Brick Net status, and errors on front of card.
- Networkable! It can be controlled and configured through the networked RS-422 serial port.
- In 'Dumb' Brick mode, four optoisolated inputs can be used to start, stop, pause, continue, or random access shows.
- Cards can be mounted in 'inaccessible' locations since they are adjusted through the networked serial port.
- Analog outputs are compatible with **EFB-QUAD, PID-QUAD, AMP-Bipolar, SSR-FS/A**, etc..
- Fits any 'Brick' card cage. These are available with from one to sixteen slots, rack mounted or not.
- **Z-Brick** output allows up to sixty-four **Z-Bricks**. Each **Z-Brick** adds thirty-two digital outputs.
- Runs on any voltage from 17 to 24 volts DC.



When To Use An IR-Link?

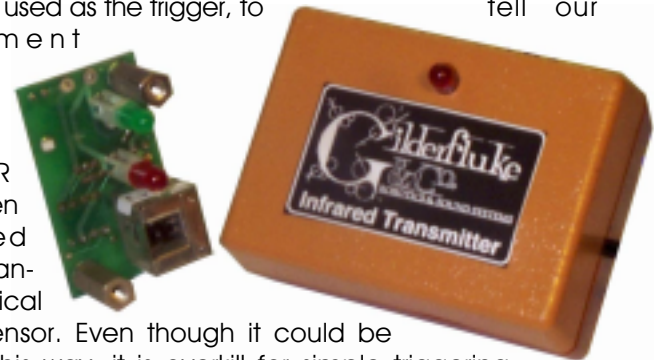
Our Show Control and Digital Audio Repeaters are often triggered by a vehicle or person entering a scene. A floor mat switch, optical beam sensor, or PIR motion detector are often used as the trigger, to tell our equipment when it should 'go'.

Our IR link is often confused with a standard optical beam sensor. Even though it could be used in this way, it is overkill for simple triggering applications. Instead, the IR Link can be used to trigger specific shows and spiels on our **Mp3-50/08, Mp3-50/40, and Smart Brick Brains**. It is designed to be used on vehicles and other things that need to have spiels and shows played at specific points in the vehicles' travels.

A typical application is on a theme park train: Specific sounds and animation sequences need to be triggered onboard the train at specific points along the track. A number of IR Transmitters are placed along the right of way. Each is addressed so that it sends out a different show/spiel number. On the train, a single receiver is positioned so that it will pick up the IR from the transmitters as the train passes each one. The output of the IR receiver is fed to the onboard Show Control and Audio Repeaters.

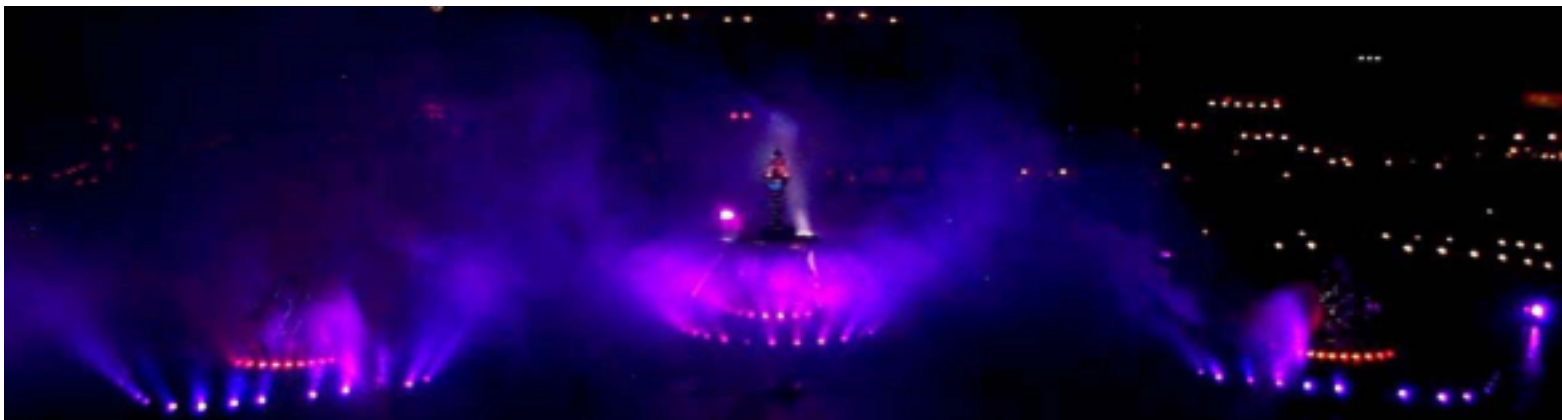
Each transmitter continuously sends an IR beam which requests a specific show/spiel number. As the train passes a transmitter, the receiver picks up its message and tells the Audio and Show Control system to start playing the requested show/spiel. At the next transmitter, a different show/spiel is requested, and so on around the track.

Where you have vehicles passing in both directions, different transmitters can be located on each side of the track. With each one set to request a different show/spiel, the train will get the appropriate request no matter which direction it is traveling in. For applications which don't use fixed travel paths, if the vehicle takes a different route, it will still trigger the appropriate show at the appropriate time as it passes each transmitter.



GilderTerm..... continued from page 1:

button. Point and click the mouse on any command on the screen, and GilderTerm will automatically send it. Want the status of a card somewhere on the network? Just put in the address and hit the 'Status' button. Want to play something specific on a specific card? Go to the 'Control' window and hit the 'Request' button, followed by the 'Play' button. Don't remember the addresses of the cards you have on your network? Use the 'Find Cards' command, and GilderTerm will give you a list of all of the Gilderfluke & Co. cards found on the network.



Water, Water, Everywhere....

There are a lot of fountains out there. The one above uses about 250 moving jets, plus analog channels to modulate the height of the fountain, pyro, and about 4000 DMX-512 channels worth of moving lights. All of this is on four barges which are floated into place for a nightly show.

We supply so many fountain controls that if you need a fountain built, we can probably find you a fountain builder in your region. If you want to build a fountain, we can give you the names and numbers of several fountain supply companies for all the specialized pumps, valves, and jets you will need. If you want to 'roll your own', we can give you the numbers for suppliers for the raw valves and many of the parts you will need to start building a fountain from scratch (we assume you know where to get the cement!).

A fountain is just another animated figure for us. Digital outputs open and close valves that turn the jets on and off. Analog outputs either open and close 'Voltage to Pressure' transducers or ramp up and down the speed of the pump motors to modulate the height of the water. Lights are turned on and off through relays or dimmers. An **Mp3-30/40** is perfect to control water, lights, and music for a small to mid-sized fountain.

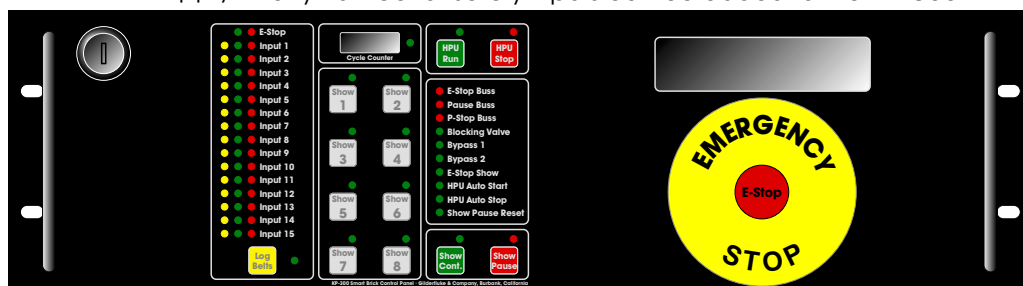
Surprisingly, some fountains don't use our control systems. We are often asked to retrofit them. Usually these have a PLC or other vendor's control system which either can not be reprogrammed, or would be prohibitively expensive to reprogram. In most cases, it is less expensive to simply replace the existing control system rather than try to reprogram it. Once replaced, you are free to reprogram as often as you please. You won't even need to tell (or pay!) the company that originally installed the fountain!

Many of the fountains that need control system retrofits use a type of relays called 'i/o modules'. These are made by most relay companies (Opto 22, Grayhill, Gordos, Crydom, P&B, etc.). We have small adapter circuits which allow you to plug our output cables directly into either eight or sixteen relay i/o module boards. This makes the replacement of the old control system 'plug-n-play'. Just rip out your old control system, plug in the new Show Control System from Gilderfluke & Co., and start programming!

KP-300 Now Includes Z-Brick

The **KP-300** is an operator panel which can be used in a Motion Base or other 'Smart' Brick or **BR-SmartMedia** applications. With the addition of a card cage on its back, the **KP-300** can become a complete motion base control system in just 5-1/4" of 19" rack space.

The newest version includes a **Z-Brick**, eliminating the need for the 24 digital outputs that the previous versions needed. It also is designed for easier expansion. Virtually any number of safety inputs can be added to the **KP-300**.



Features of the KP-300 include:

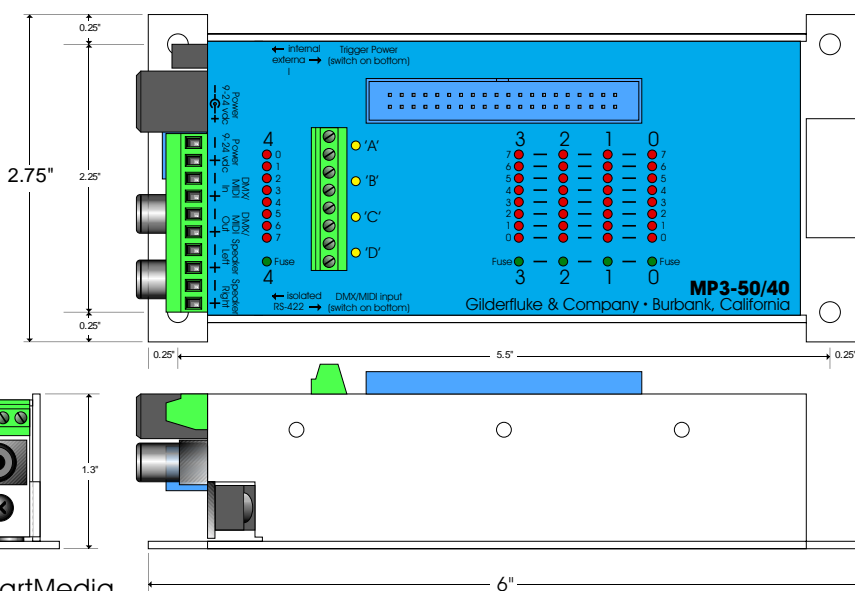
- Because many features of the **KP-300** are safety related, it has no microcontroller. With no microcontroller, there is no possibility of a 'crash'.
- Membrane-style keypad to select and play up to eight different shows, start and stop the Hydraulic Power Unit (if there is one), log unoccupied seats, and pause or 'unpause' shows. Mushroom E-Stop button.
- Fifteen optoisolated fail safe inputs. Each can be configured to E-Stop the system, pause a show, or force the HPU off. If an input is used to monitor a seat belt, it can be logged to temporarily ignore an unoccupied seat. More safety inputs can be added.
- LEDs show the condition of each of the inputs or if they are set to be ignored by the seat belt logging feature. If an input triggers an error condition (E-Stop or show pause), a flashing red LED indicates the offending input. This allows you to catch the source of short lived error conditions.
- Shows can be paused either manually or by an error condition on a safety input. When a show is paused, the motion base will freeze. The operator can then continue the show once the error condition has cleared, call up a show to park the motion base, or do an E-Stop to bring it home.

Mp3-50..... continued from page 1:

expansions. As a side benefit, this left room for dropping in a Show Control System in the same box. We, and many of our clients did this. With the arrival of the **Mp3-50s**, we now have this option available as a standard feature!

Audio is loaded onto the **Mp3-50** by first converting it to a Mp3 format file. There are a number of shareware programs for doing this, as well as Mp3 encoders included most audio editing programs. The AudioFiles are moved to the **Mp3-50's** SmartMedia card by temporarily moving the SmartMedia card to an appropriate slot or reader attached to your computer,

or plugging the **Mp3-50** to a USB port on your computer. The **Mp3-50** will then appear as a 'removable disk drive'. You can 'drag and drop' your audio files



with just a PC and a serial port connection. When used with the **PC-MACs** hardware (MACs-SMP or MACs-USB Smpte Card), up to 256 channels worth of **Mp3-50/08s** or **Mp3-50/40s** can be updated through the DMX-512 port.

Features of the Mp3-50s include:

- Stand alone stereo playback of standard Mp3 audio files. Up to 255 different AudioFiles can be selected and played. Sound capacity is only limited by the size of the SmartMedia card installed. Player supports all standard Mp3 encoding rates, including 'variable'.
- Two line level outputs (RCA Jacks), or you can use the

powerful 11 watt/channel onboard amplifier. In most applications, this amplifier means that all you need to add are appropriate speakers, a SmartMedia card and a power supply to get up and running.

- Audio data is stored in standard SmartMedia cards.
- All configuration is done

onto to the SmartMedia card. As a bonus feature, you can also use a USB connected **Mp3-50** to download photos from your digital camera, or program SmartMedia cards for any other devices that need them.

The **Mp3-50/08** and **Mp3-50/40** are complete stand-alone Show Control and Audio Playback Systems. The **Mp3-50/08** or **Mp3-50/40** can be used singly, or in combination with additional **Mp3-50s**, **Mp3-50/08s**, **Mp3-50/40s** or any other Gilderfluke & Co. equipment. It can be used to control animated shows and displays, fountains, fireworks, lighting, sound systems, simulators, slide and movie projectors, fiber optics, window displays, motors, pneumatic and hydraulic systems, neon special effects, signs, machines and machine tools in process control, or anything else that can be controlled by a signal.

The Show Control side of the **Mp3-50/08** or **Mp3-50/40** is programmed using our **PC-MACs** Show Control software. While programming, data can be sent to the **Mp3-50/08** or **Mp3-50/40** through its DMX-512 input, Networkable 'Net Serial' RS-422 port, or RS-232 serial port. Once programed, data is sent to the **Mp3-50/08** or **Mp3-50/40** through the PC's serial port or loaded onto the SmartMedia card for permanent storage. The **Mp3-50/08** or **Mp3-50/40** can then be disconnected from the PC and it will run by itself.

When used with a 'Hardwareless RealTime' licensed copy of **PC-MACs** software, **Mp3-50/08s** or **Mp3-50/40s** can have their outputs programmed and updated in real time

through a user friendly Windows-based program. You can set the volume, EQ, and what each of sixteen trigger inputs does. Eight of the inputs are from the outside world through optoisolators, The other eight inputs come directly from the Show Control side of the **Mp3-50/08** or **Mp3-50/40** (if these options are installed). Any of the inputs can be used to ramp audio to preset levels, select and play specific AudioFiles or select AudioFiles from a preset list or randomizer. Shows can be selected directly by an input, or using a binary pattern to allow access to all 255 audio files.

- Mounts stand alone, in 2-3/4" Snap Track, or in a **Mp3-50-CC10** cage (recommended for **Mp3-50s** only).
- Runs on any voltage from 12 to 24 volts DC. The **Mp3-50s** can even be run from batteries! For maximum output with the onboard amplifier, use 24 volts, and add approximately 25 Watts (for amplifier) plus your loads when selecting your power supply.

Features of the Mp3-50/08 and Mp3-50/40 include:

- Adds eight (**Mp3-50/08**) or forty (**Mp3-50/40**) digital (on/off) Show Control outputs to a **Mp3-50**.
- DMX-512 input for programming or controlling the audio playback. DMX-512 output for sixteen channel from onboard Show Control memory or when running from RealTime updates through the RS-232 serial port.
- Automatic 'program in place' download through the serial port or SmartMedia card. There are no Eproms to

program or install! The amount of time it takes to download shows the **Mp3-50/08** or **Mp3-50/40** depends on the length of the show(s). Short shows take only seconds. Show Audio, Configurations and Animation Data can be distributed to clients by sending out preloaded SmartMedia cards.

- 512 KBytes of nonvolatile Show Control memory. Using all forty **Mp3-50/40** Show Control outputs, this gives a show capacity of about an hour at thirty updates per second! This is about five hours for the **Mp3-50/08** using all eight of its outputs! Once downloaded, show data is retained for approximately forty years, with or without power applied. Up to 255 individual shows can be loaded onto a **Mp3-50/08** or **Mp3-50/40** at one time.
- Mp3 Audio files can be selected, played and audio levels controlled from the Show Control System. Left and Right audio outputs can be controlled individually.
- Two hundred fifty-five shows can be loaded onto a **Mp3-50/08** or **Mp3-50/40** at one time. Shows can be accessed sequentially or directly using the four optoisolated inputs, the RS-232 or Networkable RS-422 serial ports, MIDI 'notes', or IR Triggers.
- The **Mp3-50/08** or **Mp3-50/40** supports update rates from one frame per second to a maximum of one hundred frames per second.
- All the Show Control outputs are rated for a continuous load of 150 ma., or 500 ma. peak. This is enough to drive small solenoid valves, relays, LEDs and similar loads. Relays can be used to control higher current/voltage loads (**DRV-03** or **SSR-FS**). If more than forty outputs are needed, additional **Mp3-50/08s** or **Mp3-50/40s** can be added.
- The outputs from a **Mp3-50/08** or **Mp3-50/40** can be fed to Digital to Analog converters (like our single channel **DAC-08** or four channel **DAC-QUAD**) if you need 0-10 volt analog control signals.

Gilderfluke & Co.'s Greatest Hits On CD-ROM

We are now distributing all of 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 available with most purchases, or for a nominal charge.



Gilder WEB Page

Our web site lives on a little iMac, and is connected to the Internet by dual T1 lines. With in-house web hosting, all documents are updated immediately.

Price lists, Manuals, Cut Sheets and even these newsletters (in color!) are available twenty-four hours a day, seven days a week from anywhere in the world at:

<http://www.gilderfluke.com>

Classes Anyone?

The spacious quarters at Gilderfluke Towers has a permanent display area where we 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 training on Gilderfluke & Co. equipment, please contact Dru Smith at 818/840-9484 in California or Toni Brown at 407/354-5954 in Florida.

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. In most cases these have been incorporated into products produced by our clients. Most involve DMX-512 in one way or another.

Field Installation & Service

Gilderfluke technicians are available for installations worldwide. For installations outside our immediate area (Los Angeles, California and Orlando, Florida), 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.

Gilderfluke Show Plans

We are scheduled to exhibit at the following trade shows and conventions. 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.

- | | |
|---------------------|---|
| October 18-20 2002 | LDI (Lighting Dimension International), Las Vegas Convention Center, Las Vegas, Nevada - Booth #2225 |
| November 20-23 2002 | IAAPA (International Association of Amusement Parks and Attractions), Orange County Convention Center, Orlando, Florida - Booth #1045 |
| March 9-13 2003 | Halloween Expo, Rosemont Convention Center, Rosemont, Illinois |

Our Two Most Asked Questions

In almost twenty 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 & Show 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 more than one Animation & Show Control Systems a day. We are the only company that delivers complete, off-the-shelf Animation & Show Control Systems from stock. Most of our systems are bought by large Animation Manufacturers for incorporation into their shows.

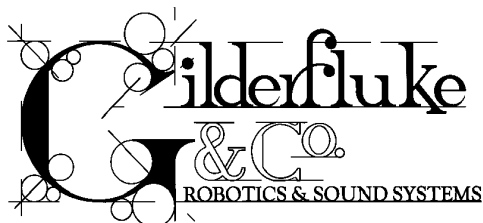
Our **PC-MACs** Animation & Show Programming Systems were the first to run under Microsoft's Windows. It is still the

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 sized shows you can imagine.

Our Digital Audio Systems are led by our **Mp3-50** Industrial-Strength Mp3 players. These store audio on standard SmartMedia Flash cards for any installation where you need a sound to play reliably and with zero maintenance; forever. Audio systems with from two to thousands of outputs are available.

The Mp3-50 players are also available with an option that adds eight or forty Show Control outputs to them. This turns then into a complete Audio and Show Control playback solution.

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- **Mp3-50 Audio Playback & Show Control System**
- **BR-ANA & The End Of Eproms**
- **GilderTerm**
- **Cage for Mp3-50s**
- **WTC**
- **Networking Gilderfluke**
- **Mp3-50 w/Atomic Clock**
- **A Case for BR-MiniBrick8s**
- **Application Notes**
- **When to use an IR-Link**
- **Water, Water, Everywhere**
- **KP-300 Now Includes Z-Brick**
- **Greatest Hits CD-ROM**
- **GilderWeb Page**
- **Classes Anyone?**
- **Custom Design Work**
- **Field Installation Service**
- **Gilderfluke Show Plans**
- **Our 2 Most Asked Questions**