INTRODUCING REACTOR
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Gottlieb's new video, Reactor, should now be available at your distributor. The video system that we call the Graphics Generator 2, or GG-2, has been totally developed and designed at our video engineering facility in Bensenville, Illinois. The GG-2 system is an expandable system that is a self-contained, self-supporting board without the need for external ROM boards or I/O boards. The exception is a small track ball interface board, which handles the conversion of four X-Y coordinates into digital form for the CPU. Our engineers have also designed a new, simplified, more reliable power supply board. The new A2 power supply for video combines the logic supply, a 6 Amp +5 regulated DC crowbar-protected output and all the voltages for the Sound/Speech board.

The Reactor game has the added dimension of speech because of our A6 Sound/Speech board. We have used two speakers for a richer sound and more reliable operation. Some notes for technicians familiar with our Sound/Speech board: In the binary input coding from the CPU board, S32 input is now used as the MSB of input codes. If servicing the Sound/Speech or Power Supply Assembly, do not remove any connectors until the LED indicator, D25, for the +30V DC Audio Amp reference is completely off.

The cable and connector layouts have been designed to correspond to our pin-game coding systems. Those familiar with the cable, connector and wire codes in pinball games should find our video system familiar: Wires are triple color-coded, male connectors are coded AxPx, female connectors are AxJx, ground is always white or green/yellow and +5V DC is blue/grey/grey.

The CPU Video Generator board is divided into two semi-independent control sections. The CPU uses the 8088 Intel Microprocessor to control the reading and execution of the program, selection of I/O ports, and selection of certain timing and RW signals. The 8088 has capabilities for 64K of memory. We are using 32K x 8 ROM and 8K scratch RAM, operating on a 5 MHz. clock and controlling 5 input and 5 output ports.

The Video generator section of the board is called the Video State machine. A separate clock machine generates and controls the video signal output. The vertical sync is used to reset the Watchdog Timer and also to synchronize the CPU to the Video State machine. With the Video State machine controlling many of its own functions, the CPU has more programming room, more reliable stabilization of the buses, and more reliable set-up of program execution. The extra programming room gives the GG-2 system up to 4096 possible color variations and a 128 character set for foreground out of a possible 512 characters and objects.

You will find all of our technicians at the pinball hotline are familiar with the video system. If you have any questions or if technical help is needed for video repair, feel free to call us anytime.