Medalist “Spectrum” Genesis Dart Game Information

General Information:

The Medalist “Spectrum” coin operated dart game machine (a.k.a. “Genesis” model or “Spectrum Genesis” model) is available as a solid molded plastic cabinet dedicated game or as a conversion kit for the older Medalist “Dart Star 2000” wooden cabinet dart machines. Originally was supplied with a “Tekbilt” brand switching regulator power supply with screw terminals. This power supply was not very good and Medalist had to provide a high wattage (and very hot during operation) resistor across the +5 volt and Ground (com) terminals in order to stabilize the power output. It also provided a load so the power supply would start up consistently and smoothly. The first Spectrum dart games had only a 12 amp rating (Tekbilt model 30820) and soon failed. Medalist then started using 15 amp rated power supplies (mostly Tekbilt model 30920) and it helped alot. If experiencing problems with the Tekbilt power supply it is suggested to replace it with the video game industry standard “Peter Chou” switching power supply with a 15 amp rating on the +5 volts. With a Peter Chou power supply (screw terminal model) you will no longer need that huge resistor on the terminal strip and you can eliminate it which will help reduce heat inside the cabinet. This game needs to have the power supply adjusted to 5.15 volts DC for proper operation. Anything less than that and the game board may not power up. The Tekbilt power supplies are actually Mean Well (www.meanwell.com) units. The Mean Well numbers for these power supplies are models MWP-602 and MWP-602A.

Originally the molded plastic cabinet had two 4” square speakers for sound. It was found that internal temperatures of the cabinet were way too high causing all kinds of problems because of lack of ventilation holes. Medalist found that a change was needed and decided that the right hand speaker (as viewed from the front of the machine with the target head door swung open) was not really needed and it could be eliminated. That left a nice 4” diameter hole for airflow, however simple convention cooling was not enough. An exhaust fan (blows outward) was needed so Medalist started installing a 4-3/4” (120 mm) square fan in that opening with a metal guard over the fan blades. That really helped and made the interior much cooler. Radio Shack fan # 273-238 (12 volt DC) or # 273-241 (115 volt AC) can be used depending on where you obtain the power for it in the cabinet. If using the 12 volt DC fan, run the power wires for it to the “+12v” and “Com” (ground) terminals on the switching power supply. If using the 115 volt AC fan, run the wires to the “115 L” (line or hot) and “115 N” (neutral) terminals on the switching power supply. You’ll also need a metal guard to go over the fan blades as protection. You can use Radio Shack special order # 900-2528 guard or Jameco Electronics # 25734CH guard. If the fan you’ve selected needs a power cable & connector, Jameco Electronics # 104192CH or # 28564CH will work.

Some Spectrum dedicated cabinets were equipped with Happ Controls coin doors and dollar bill validators installed. Some cabinets may have Coin Mech (www.coinmech.com) brand coin doors installed.

Game Board Information:

The game board has nine (9) integrated circuit sockets onboard for the game operating chip and software. Not all sockets will be occupied and will remain empty. Here is a list of the board locations and what versions of software should be there:

U7 “MEM 0” Revision 3.26 This is the latest software (games and graphics)

U8 “MEM 1” Revision 3.25 This is the latest software (games and graphics)

U9 “MEM 2” This socket remains empty.

U10 “MEM 3” This socket remains empty.

U11 “MEM 4” Revision 2.0 This is basic pricing and game options.

U12 “MEM 5 ENGLISH” Revision 3.1 This is the voice instruction language/sounds chip.

U13 “MEM 6” This socket remains empty.

U14 “KM681000CLP-7L” This is the static RAM chip, 128k x 8 bit (1 Mb). I believe this crosses to # K6T1008C2E and # 628128LP-85. Jameco Electronics (www.jameco.com) part numbers 103982CH or 131810CH should work.

U43 “SYSTEM” Revision 1.0 This is the main system parameters chip (startup/self test).

The eproms are Atmel # AT27C080-150C, which is 1Mb x 8 (8Mb) in size, 32 pins. Jameco Electronics # 140003CH or # 156275CH will work if you want to program/copy your own software. Programming voltage is 12.5 VDC.

Dip switch settings: Switch 1 turns the Operator Setup mode on or off. Switch 3 enables/disables on-screen advertisements. Switch 8 enables/disables “Factory 2” pricing. All other dip switch settings are not used.

The 3 pin AMP brand Mate ‘N Lock connector is the power input to the board. The +5 volt (red wire), +12 volt (blue wire), and ground (black wire) from the power supply come in here. There is a video output connector to go to a computer monitor in the lower right corner of the board.

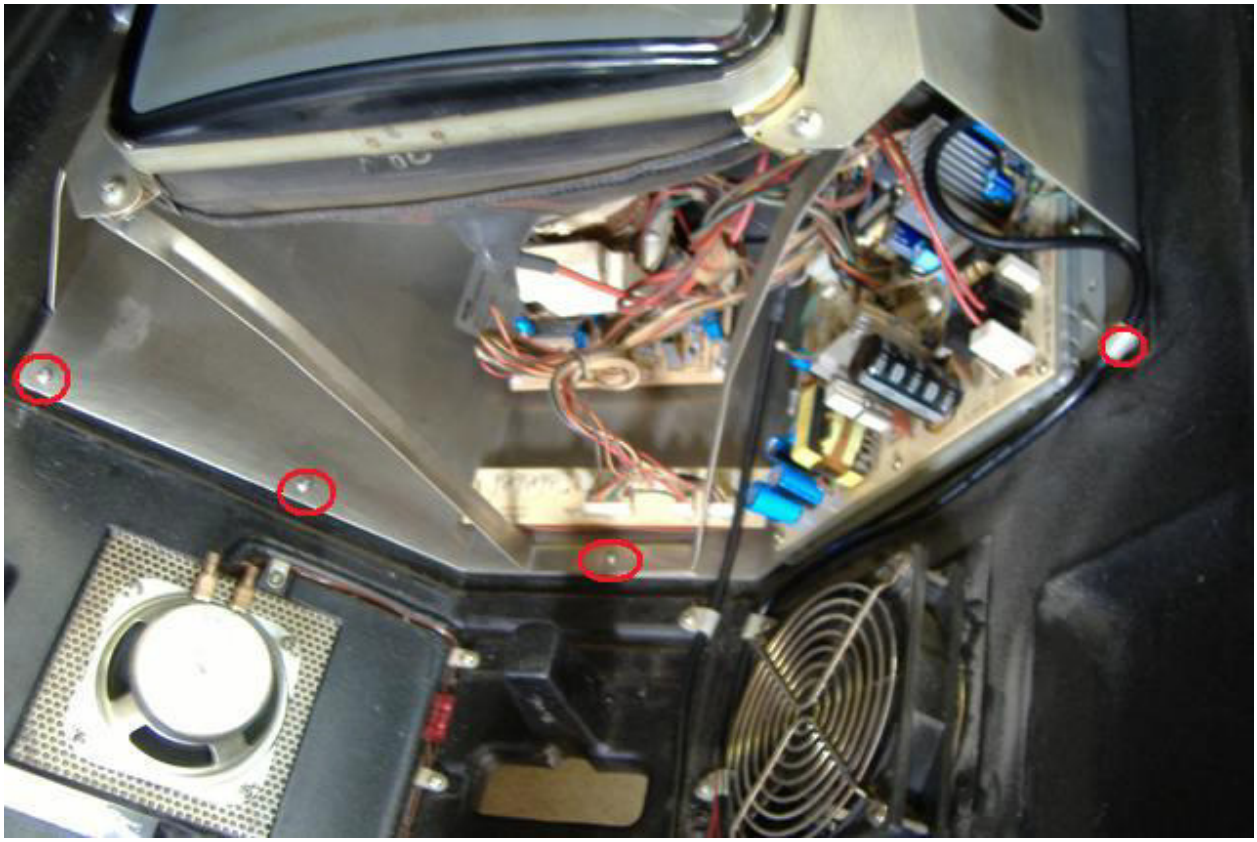
Monitor Information:

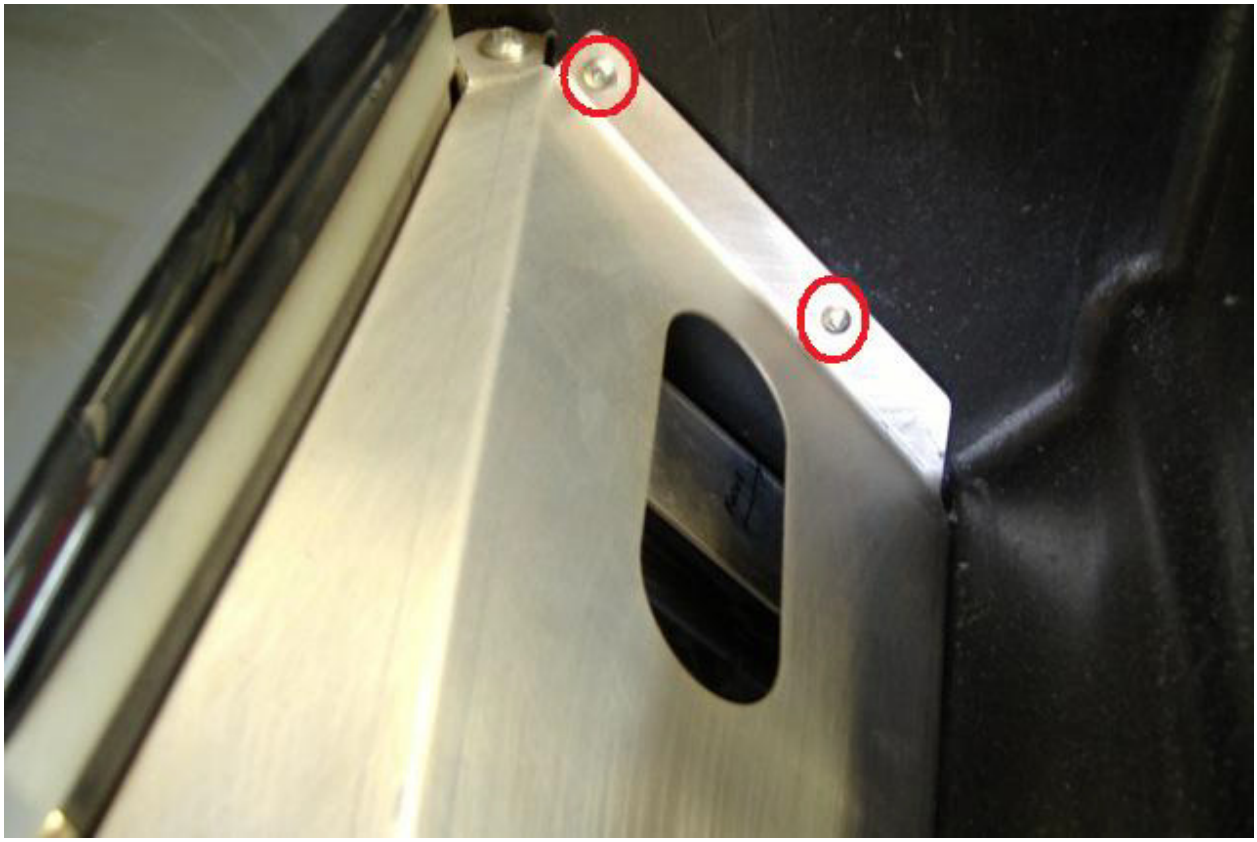
Medalist used two different 13” VGA color monitors: Eygo (really a Wei-ya/Huai) and Neotec model NT-1431. Both were removed from their original frames and installed in a custom made

metal frame for Medalist in order for the monitor to fit in that molded plastic cabinet. There is only a sixteenth of an inch clearance from the back of the monitor’s neck board to the back of the cabinet. It’s very easy to bang/push on the front of the monitor and break the neck of the picture tube because of this design flaw. If the monitor is damaged or simply not working, any VGA computer monitor can be plugged into the monitor connector on the game board and will work. You’d just need to find a place to mount the monitor outside the cabinet.

MONITOR REMOVAL:

The existing monitor is held in the cabinet by a total of 8 Robertson head (square drive) screws. There are 4 along the bottom of the monitor and two each at the top left and top right that need to be removed. They are circled in red in the photographs. Be sure to disconnect the monitor power cord from the power supply’s screw terminal strip (make note of what wire colors go to each terminal first) and disconnect the video connector from the game board. You will need a small straight slot screwdriver to undo the two clamps on the connector. Removing the monitor can be done with the machine standing upright, but you will definitely need a helper as the cabinet is top heavy and may fall towards you! If is easier to remove the monitor if the cabinet is laying on the floor with the target head door carefully propped open so as not to damage the hinges. The monitor is heavier than it appears so be careful. You will need to undo all the cable clamps holding the monitor power cable and video cable before removing the monitor.





Game manufacturer contact information:

Medalist Marketing Corporation
201-C Frontage Road South
Pacific, Wash. 98047
Telephone: (253) 939-2900 or 1-800-532-4837
Fax: (253) 939-0128
Website: www.medalistgames.com
Email: sales@medalistgames.com

The city of Pacific is a suburb south of Seattle near Puyallup.