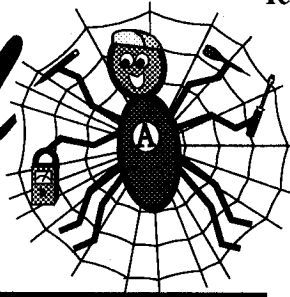


# Arachnid Tech. Tips



SPRING 1997

## EDITOR

Connie Kronberg: Electrical/Tech. Serv.

## TECHNICAL ADVISORS

Gene Harlan: Manager, Tech. Serv.

Rick Hirschman: Electrical/Field Service

Pat Rice: Software/Dartman

Dick Jones: Research &amp; Devel.

*A Publication Especially for Operators and Technicians who service Arachnid Products*

This publication is provided as an aid for field technicians and operators who troubleshoot, repair, and maintain Arachnid games. It is a technical tool designed to keep all the latest updates, service bulletins, suggestions, and ideas together in one neat package.

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Have an idea or tip to share? E-mail us at [techsupport@bullshooter.com](mailto:techsupport@bullshooter.com) or write us at:

Arachnid Inc. Engineering Div.

Attn. Tech Tips Editor

P.O. Box 2901

Rockford IL 61132-2901

HAVE A TECHNICAL QUESTION OR PROBLEM? Call us at 1-800-435-8319 and ask for Technical Service. We'll be happy to assist you in any way we can.



## IN THIS ISSUE:

6300T Monitor Replacement Kit .....	1
Helpful Hints for Dartman III .....	2
The Piezoelectric Missed Dart Detector ....	3
The Archives: Networking Games .....	4

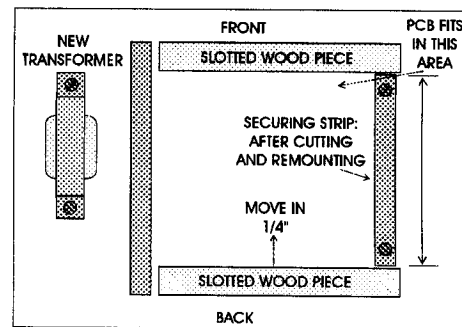
## Using New Arachnid Monitors in 6300T Games

Although the Galaxy is fast becoming the favorite dart game, there are still a lot of older workhorses out there. One of the popular ones is the 6300T. It is a Super 6 Plus II in a cabinet with a 12" monitor on the top. Although this cabinet style is no longer made, there are many of them still in use. Also, these along with mid-monitor 6000's and 6300's are now being converted to Galaxies, which utilizes the existing monitor and coin door of each game.

Recently, Arachnid changed vendors of 12" monitors used in Galaxies. The previous vendor was Goldstar, which happens to be the very same monitor that we used for 6300T games. Goldstar stopped making the monitor we were using, so we are now buying from another manufacturer. These monitors though close, are not an exact fit for the 6300T games, so we have come up with a kit and instructions which will allow you to use the new monitors more easily.

The CRT for the new monitor should slide right into the same area that the old one did. The only obstacle may be the tension band which goes around it. If it rubs on the top of the cabinet, then the CRT will have to be turned around, and the yoke flipped to compensate.

The wood tray will need to be modified somewhat to properly house the new monitor P.C. board, since it is a little smaller than the old monitor board. This can be easily done by moving one of the slotted wood pieces in 1/4" and by trimming, moving in, and reinstalling the securing strip (see illustration).



The audio wire must also be soldered to a new connector, and the On/Off switch connector must be jumpered. The parts are provided by Arachnid.

The new monitor transformer installs easily. Simply remove the bottom bracket and mount it with screws provided.

This Monitor Replacement Kit is now available from Arachnid. The part number for the kit is 40091. This article only gives a summary of the installation process. A more detailed instruction sheet, along with the necessary hardware is provided in the kit. Contact your distributor for pricing and availability.

### Arachnid Monitor Manual Now Available

The manual for the new Arachnid monitor (mentioned in the above article) is now available. They are being sent out with all new games. If you need one, please call, write, or e-mail us. We'll be happy to send it to you.

## **Dartman III...Advanced Tips for the Experienced User**

Ok, so you know how to use Dartman III, you've been handicapping players, running leagues, making team cards, collecting data, fixing stats, changing names and chasing down subs for a long time now. So what can we tell you that you don't already know?

Maybe nothing...but through our many discussions with folks like you and in finding ways to make the system work in unique situations, we may have some tips for you after all. At the ASI show in Las Vegas this past March, Arachnid held an open forum one evening, where several operators got together with Arachnid representatives. We all bounced problems and solutions off one another, and hopefully came away with increased knowledge and better well-being. We would like to thank all the operators who took part in this forum, and for those of you who couldn't be there, we hope to set up more of them in the future. We may do them at another show, tournament, or here at Arachnid.

The following is a variety of tips we have put together for you from the above experiences. We hope you find them helpful. In the future we will publishing more like them, so keep reading.

**The Pros and Cons of Copying a League** - At the start of a new league season, it can be very helpful to copy an old league and modify it rather than set up a new one from scratch. If many of the locations and team names will remain the same, doing this can save you lots of typing time. There is one problem, however. The locations under the copied league will not remain in the master file if the original league is deleted from Dartman III. The only thing this affects is your modem phone list generation and of course, bringing the location up for use in another league later. As for the phone list, it will still generate properly, but you will see a warning with each location that it is not found in the master. You could of course, add them to the master file later, or you could try copying leagues this way instead:

Use the old league as the new league - for instance, lets say the league that is over is named WED301. Copy WED301 into a league named WEDOLD. Now save this as your old league and use WED301 as your new league. At this point you will reset all the stats in WED301 so that the league is blank. If you like, you can "Rename" the league to a different name after the copy process is completed. If you always use the original league as your current league, you will never have a problem with losing location information from your master file.


**Bell-Curve V.S. Lookup Table Handicapping...** some points to keep in mind - If you have Dartman III version 1.2, then you have two handicapping options available to you. Without going into "how to use", let's touch briefly on "why to use":

**The Bell Curve** method is the original method provided by Arachnid. It is ideal for leagues with unestablished or unranked players, lots of new players, and etc. It takes the stats as they come in, and based on a curve much like the ones your teachers used in school, ranks everyone in the league according to how the whole league is doing. However, like those tests at school, a couple of high ranking players can throw the curve higher, or visa versa. Because of this, the handicap of a player who didn't play in a given week may change for the next week, even though his stats didn't change.

**The Lookup Table** is good for established leagues. If you know where you want the dividing lines to go, (for example, if everyone with an MPR of 4.00 or higher should get 0 spot darts) then this is the method for you. Once the ranges are entered, the players' handicaps will automatically be updated as soon as stats are loaded each week. This method requires very little intervention from the league coordinator.

**HANDICAPPING PROBLEM** - What does it mean if someone shows a spot dart number higher than allowed?  
**ANSWER** - It means that the player name as shown on the report is different than the name within the league. Dartman couldn't find the player name, and therefore didn't handicap them properly. Make them match.

**Reading Operator Cards into Dartman** - A few words for those of you who routinely collect stats with operator cards. **DON'T PULL THEM OUT SO FAST!** If you've ever had trouble with cards being full already when you use them again, this is why. After a card is read into Dartman, a message appears that says, "Player Card Read Successfully"...however, its not done yet. You must wait until the cursor reappears after "Insert Card in Reader and Press Enter" before removing the card from the slot (this is only about 1.5 seconds!). If you don't, the pointers are not set properly in the card and the data on it may not be ignored when you collect again. If you follow this simple rule, you will never have problems with cards being full in the field (unless of course, you "fill" them again). This means you DON'T have to re-format your cards each time you take them out.

**About your Phone Bill** - Watch that phone bill! Some telephone companies have been known to charge you as soon as a call starts ringing, regardless of whether they answer or not. Check with your phone company, and if this is the case, you may want to take a closer look at your phone list each week. 

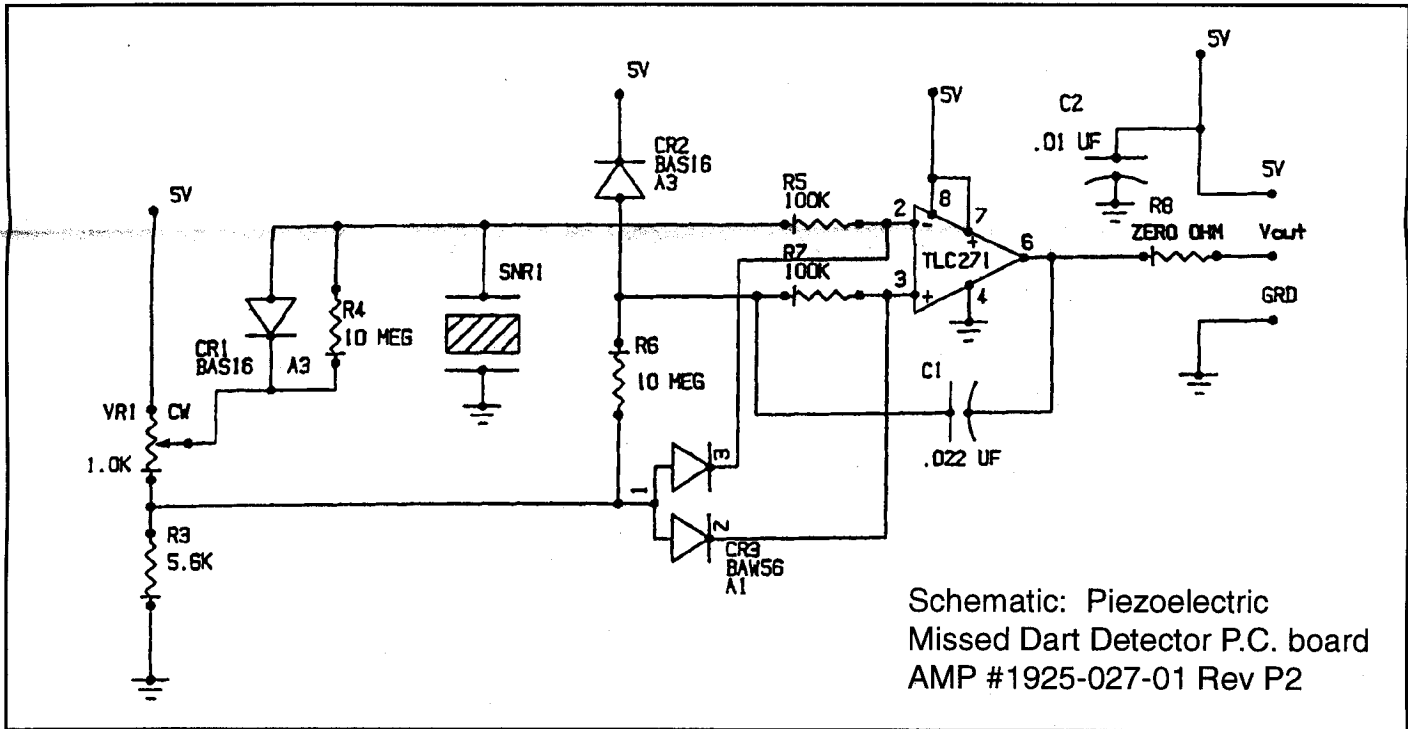
# The Piezoelectric Missed Dart Detector...Technical information

You may or may not have seen it yet; Arachnid's new piezoelectric missed dart detector. Utilizing piezoelectric technology, this device replaces the old "gold contact" type used previously. The new design is less susceptible to dirt and outside influences.

The new "Piezo" consists of a small P.C. board, three

wires, and an adjustment pot, along with the piezoelectric switch and mounting hardware.

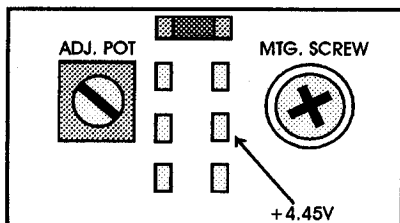
The performance of this new detector won't be affected by dirt or nicotine film, which of course means it won't need the routine cleaning and maintenance that our previous missed dart detector did. The device we currently are using is made by AMP, the P.C. board schematic for it is shown below.



Schematic: Piezoelectric Missed Dart Detector P.C. board AMP #1925-027-01 Rev P2

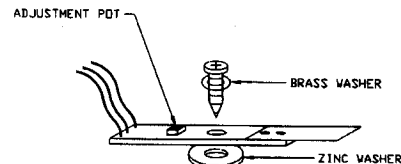
**SENSITIVITY ADJUSTMENT** - is done with the small trim pot located on the P.C. board. Turning the pot clockwise (slightly) increases the sensitivity, counter-clockwise decreases the sensitivity. This is a *single* revolution pot with no stop. Therefore, if you turn it beyond one revolution, the sensitivity will jump from least to most, or most to least and then start over.

**SETTING THE SENSITIVITY BY A VOLTAGE MEASUREMENT** - The missed dart detector is preset to a voltage level of +4.45VDC. This may or may not be a desirable setting for your application. To check your voltage setting, first adjust the MDD to the sensitivity you prefer. Locate the empty six-pad configuration to the right of the adjustment pot as shown below. Measure between the ground (green) wire of the MDD and the center pad of the right-hand row.



The voltage you measure is the voltage you could set other games to if you want the exact same sensitivity for them as well.

**REPLACING OLD MDD'S WITH THE PIEZO** - Remove the existing gold contact from the target back, and install the piezo in its place, using the same screw hole. The piezo should be horizontal, with wires exiting to the left. Plug the harness into JP10 on the Smart Target Board. On boards prior to rev. K, plug in the connector with the black wire on top. On rev. K or higher boards plug in the connector with the black wire on the bottom. Solder the red wire to the leg of R1 that is closest to the edge of the Smart Target Board (this is +5V).



These instructions are provided in more detail when you purchase the Piezo Missed Dart Detector Kit from Arachnid. The part number for the kit is 39168. Please contact your distributor for pricing and availability.

## The Archives: Service Information, Past and Present... for Galaxies and older Dart Game Models



### Game to Game Communications ... Grounding problems

When games are connected together with phone lines in a network, as is done in a location with two or more games (for modem collections), the location's ground system becomes very important. If there is a difference in potential from one wall receptacle to another, it can cause problems with downloading stats and with game operation.

Check ALL wall receptacles used. They should ALL be from the same main service entrance, be grounded, and should all be wired in the same configuration. The easiest way to test them is with a plug-in outlet tester. The LED's will tell you if hot and neutral is reversed, or if there is no ground. If some receptacles are grounded and some are not, and games are networked together, it is bad for collections. These wiring differences can cause phase problems and/or up to 70VAC to be floating on partial grounds, from game to game! This could obviously have an effect on stats collections, and also be the cause of some main board hardware failures.


The situation must be remedied to improve collection reliability. If there is simply no way to correct the wiring at the location, the last resort is to remove ALL existing grounds from the games until a way can be found to correct the wiring.

### Mixing Converted games with Dedicated Galaxies...

When using dedicated Galaxies (new games, built at Arachnid) and conversion games (older dart games converted to Galaxies) together in the same network at the same location, grounding problems may occur, especially if the locations they are in have poor wiring. It is important to check for proper grounding in these situations.

On conversions, main board grounds are isolated whereas on dedicated Galaxies main board grounds are tied to earth. A mixture of these networked together through phone lines can cause 10 to 20 VAC to float from game to game, which may effect collections or damage U24 or U20 on the main boards.

**Remedy** - For all 6300 to Galaxy conversions used in a mixed network - tie the main P.C.board ground to earth ground. This can be done by splicing the black/red ground wire to the green earth ground wire on the harnesses.

**NOTE** - This is only a problem if boards are mixed in a network. If a location has nothing but conversion games, then the boards need not be grounded in this manner. However, if one board is modified, then they should ALL be done. 

*Free Binders* are available to keep Tech Tips issues together. Write, call, or E-mail us to request one.

**IN THE NEXT ISSUE OF TECH. TIPS: League Time Again // Check those Phone Lines // Divisions and Handicapping // and Much More !!!**

*Arachnid Tech. Tips*

Please Forward to your Technical Staff and Dartman Users

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