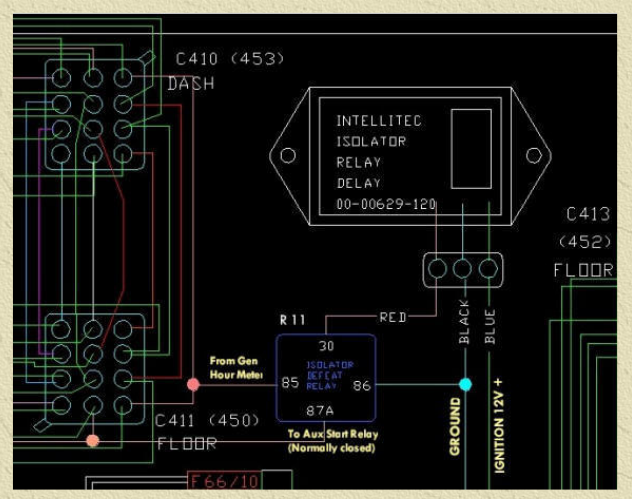
The Isolator Relay Delay Module

The higher end Monaco coaches (Camelot and above) have a Bi-directional Isolator Relay Delay (BIRD) module that, in conjunction with the Big-Boy relay, provides a means of charging the chassis batteries from the 110V charger while plugged in to shore power, and **also** charging the house batteries from the alternator while driving. The Diplomat does not have this system. As explained on the "Mods and Enhancements" page, Monaco provides no way to keep the chassis batteries charged while plugged into shore power. Hence the addition of the Xantrex echo~charge on our coach.

Beginning with model year 2008, Monaco installed the BIRD module in the front run bay of some Diplomats, bypassing the IRD on the circuit board (shown below). On a select few coaches they have installed it at the owners request. Later in 2008 they ordered a change from the provider of the main house circuit board (MTO) to resolve the problem for good. (See the update below for the latest information.)

Monaco **has for some time** installed on the lower end diesel coaches a means of charging the house batteries from the engine alternator while driving the coach. This function was originally handled by an Intellitic Isolator Relay Delay module located in the Front Run bay. Click here for a detailed description of how this module works.

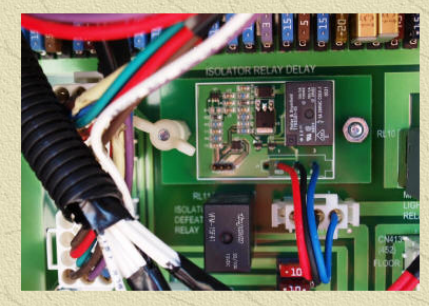


The above electrical diagram is a section of the diagram for the Front Run bay on the coach, where most of the chassis fuses and relays are located. The Isolator Relay Delay (IRD) module can be seen on this diagram. What it does is monitor the voltage of the chassis 12v system. When it senses that the chassis voltage is above 13.3 volts for more than approximately 12 seconds (which would normally be the case with the engine and alternator running and the chassis 12V system not overloaded) this module closes the main isolator relay (the Auxiliary Start Relay) between the two battery banks. This allows the house batteries to also have access to the alternator, which is charging the chassis batteries while the engine is running. When the ignition is turned off, the IRD ceases to function, keeping the two battery banks isolated.

Note that the output of this module goes through another relay (R11) before going to the Auxiliary Start Relay. R11 is normally closed allowing the module to do its job. But when the generator is running, current from the Generator Hour Meter is also routed to the coil of R11, which in turn opens the circuit and interrupts the current to the Auxiliary Start Relay, keeping the two battery banks isolated. This relay is there because with the generator running, the charger would normally be charging the house batteries and you would want them to be isolated from the chassis batteries and the alternator.

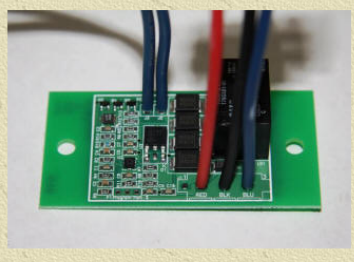
Update: (April, 2009)

Sometime in 2006, or perhaps a little earlier, Monaco contracted with Mega Tech of Oregon (MTO), the company that was already manufacturing the large house control board in the front run bay, to manufacture a direct plug-in for the Intellitec IRD relay that fit in exactly the same space. The MTO module performs exactly the same purpose as the Intellitec IRD. The picture to the right shows the MTO IRD module installed in my 2007 Diplomat. (It is not the Intellitec unit.)



By sometime in the latter part of 2008, after Monaco had received a number of complaints from owners that their chassis batteries would not charge from the on-board charger while plugged in to shore power, Monaco asked MTO to remedy the "problem" by manufacturing a direct replacement for the Intellitec BIRD module that would fit into the same place on the large circuit board. MTO complied and, at some point very recently, started replacing their "IRD" module with another module that would perform just like the "BIRD".

You can see the new bi-directional module (with two extra blue wires) pictured to the right below. Since this module is a direct replacement, an owner can simply remove the MTO "IRD" module and replace it with the newer bi-directional module, which will give the owner the same bi-directional charging capability with both battery banks as if they had the Intellitec BIRD module installed. If you have the older module, **Mega Tech of Oregon will sell you a replacement kit with installation instructions.** (Order it here.) This will eliminate the need for owners of the older module to install an echo~charge or a Trik-L-Charge unit.



As of this writing, I have not been able to confirm whether or not the new MTO bi-directional module was installed in 2009 Dips and Endeavors. I would very much appreciate if a 2009 model owner would email me and let me know.

Return