



TECH BULLETIN

TECH BULLETIN NUMBER TB0150  
PCR 04302008  
SUBJECT MS2012, MS2000 Software  
Version 3.7  
MODELS AFFECTED MS2012, MS2000  
WARRANTY Not Applicable

<b>Software / Other Description</b>	
<b>WAS:</b>	<b>IS:</b>
<b>Inverter Software</b>	<b>Inverter Software</b>
version 3.4	version 3.7
<b>Charger regulation</b>	
Charger overshoots. i.e. The charge rate is set from 0 to 10%, charge amps increases up to 100% output before it normalizes.	Lower charger overshoots. i.e. When charge rate is set from 0 to 10%, charge amps increases to about 50% output then slowly normalizes.

<b>Inverter voltage regulation</b>	
Decreased the recovery time and improved the voltage regulation during large load changes.	
Output voltage recovery time from 10% to 80% load change is over one second.	Output voltage recovery time from 10% to 80% load change is about 0.4 second.
With 10% to 80% load change, inverter output voltage drops about 60 VAC.	With 10% to 80% load change, inverter output voltage drops about 90 VAC.
<b>Dead battery boot</b>	
In the dead battery boot, AC voltage is not qualified before closing the relay, so the charger can connect to high AC voltage.	AC voltage is qualified before closing the relay to make sure AC voltage is within high (about 145 VAC) and low (VAC Dropout setting) limits.

<b>Search watts sensitivity</b>	
Unit takes long time to come out of search with a high SEARCH WATTS setting like 30 or 50 Watts. (about 0.5 seconds at 50 Watts).	Search mode will sense the loads faster on each setting ( $\leq 0.2$ seconds at 50W).
5 Watt search setting is different with remote than without the remote.	5 Watts search setting same with or without the remote.
<b>Battery size</b>	
Absorption time is not defined for battery sizes larger than 1600 AHRs.	Absorption time is defined for battery size up to 5000Ahrs.
<b>INTERNAL FAULT -1 (BRIDGE FAULT)</b>	
Fault counter for INTERNAL FAULT never resets. It can accumulate over a long time and present a fault when it accumulates to the 50 <sup>th</sup> event.	INTERNAL FAULT error counter decreases the number of events when conditions are normal.
<b>Charger response to ambient temperature</b>	
Charger dials back to 50% when ambient temperature is above 45°C	Charger dials back to 50% when ambient temperature is above 45°C <u>and</u> FET's are hotter than 75°C.

<b>Shore Amp setting</b>	
With SHORE setting at 30 Amp or higher, unit will regulate to 25 Amp setting.	The unit correctly regulates to the SHORE amps setting.
<b>Random inverter shutdowns</b>	
Communication bytes from remote are not validated before being executed.	Inverter validates the packet length (16 bits) before information is executed.
<b>Custom voltage</b>	
Inverter does not execute the custom EQ voltage request from the remote.	Inverter can accept and execute EQ voltage requests from the remote.
Maximum custom absorb voltage is 15.9V, above this it defaults to 14.5V	Maximum custom absorb voltage is 16.0V
<b>Inverter ammeter readings</b>	
DC ammeter is Sometimes Unreasonably inaccurate.	Recalibrated inverter/charger ammeter for better accuracy.
<b>Backfeed Fault</b>	
Backfeed fault allowed.	Removed backfeed fault.  A legitimate backfeed would present as an AC OVERLOAD