



New Products

MidNite Solar Inc.

We make stuff!!!

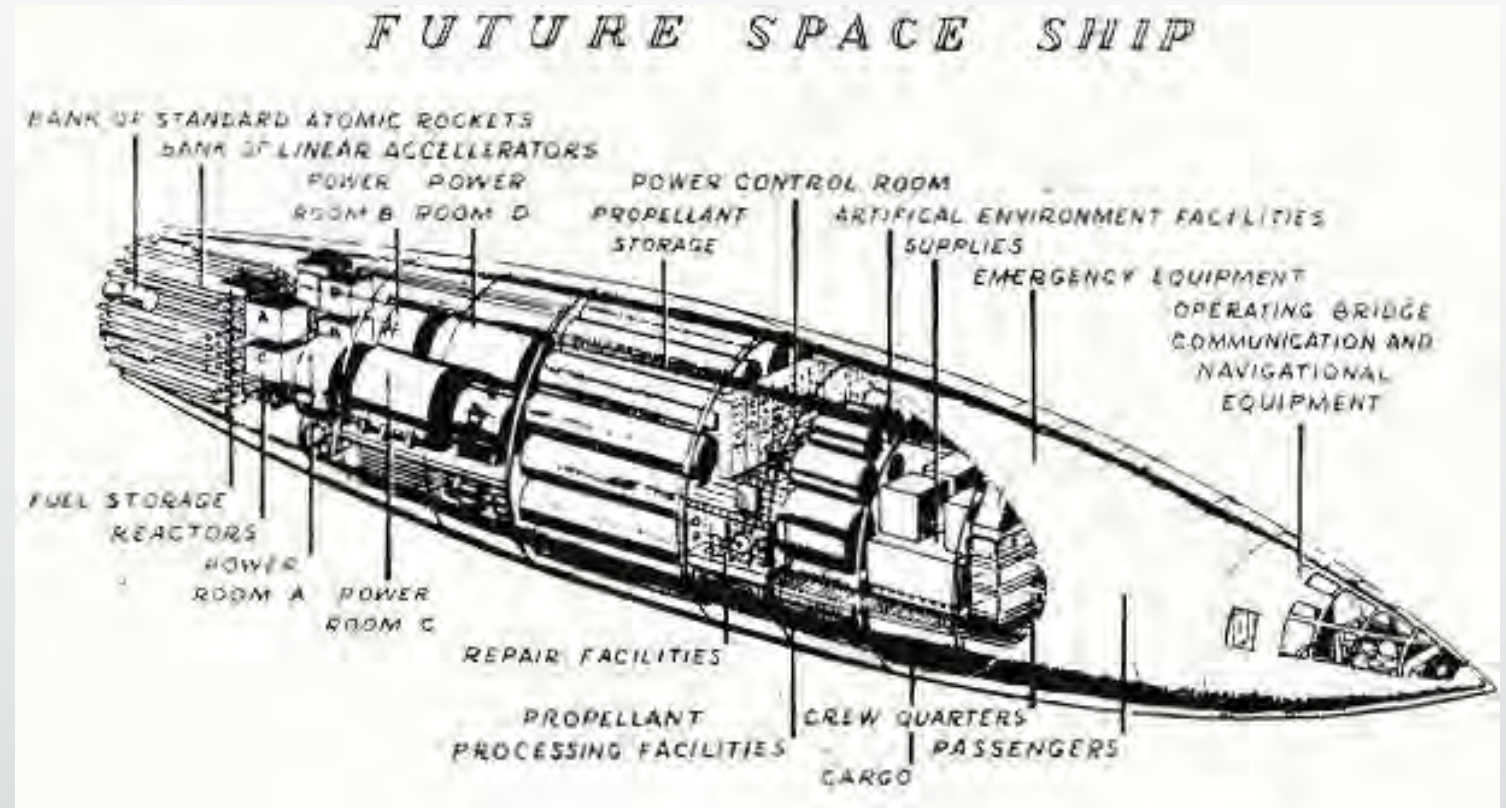


Vaporware- Stuff that doesn't yet exist

The MidNite engineering department consists of 15 engineers and technicians

“The best I have ever worked with”

-Robin Gudgel



The Talking Classic

All Classics have free upgradeable firmware, making sure these units are never out dated.

The Talking Classic will give you verbal updates on system status, such as battery voltage, errors and charging states.

Customizable: You can choose how often your classic gives verbal updates and from Verbose to Silent or anywhere in between.

Voice is beginning beta testing now!



MidNite Wind Turbines

- Stamped aluminum chassis.
- Maintenance-free, low friction bearing.
- Extremely quiet injection molded blades with a new airfoil design.
- Long-life yaw pivot slip-rings and wipers.
- Easy tower-top installation.
- Simple design for affordability and durability.
- Innovative design axial flux alternator using neodymium iron boron magnets.



MidNite Wind Turbines

- Diversion load controller comes standard.
- Comes in 12, 24 or 48V
- Designed for ease of installation and reliable operation
- 500 & 1000 watt grid tie and battery charging versions to follow



200 watt Chinook

Inverters

- The B17-3 & -5
- **Nine different** styles of inverters are planned
- Last year this was only a concept, this year it becomes real



Inverters

- The B17
- Shown at SPI in Las Vegas
- We applied for 8 patents the day before this show



B-17 Power System

- The B17 is a modular power system designed to efficiently and attractively house your inverter, charger and E-Panel in one unit.
- It can be used for battery based off grid or grid tied systems.



B-17 Modules

- All B17's come with a control module
- The other 3 or 5 power bays are configured on site
- You can start with only one power module if desired
- The B17-3 can have 1 MPPT and 2 inverters or 3 inverters
- The B17-5 can have 2 MPPT and 3 inverters or up to 5 inverters



B-17 Inverter Modules

- Inverter modules all have the same meter face
- Reads AC voltage up to 300VAC
- Reads power in watts and DC current based on push button
- Automatic stacking when additional modules are inserted
- Green and Yellow LED's tell you meter face mode
- Push button selects meter mode and applicable LED
- Meter light is blue under normal operation. A red meter light indicates an error in the module.
- Easy module removal using 4 chrome thumb screws
- Pull handle to disengage and remove module
- Hot swappable. Circuit discharges in 1/4 second for safety
- A ten year old can safely replace a module in 30 seconds

Inverter Module Meter



B-17 Charge Controller Modules

- MPPT modules have 2 different meter faces based on model number
- 200V controller reads up to 300V. 600V controller reads up to 600V
- Separate Solar and Wind MPPT controllers 200 and 600VDC
- Reads power in watts and DC current based on push button
- Green and Yellow LED's tell you meter face mode
- Push button selects meter mode and applicable LED
- Meter light is blue under normal operation. A red meter light indicates an error in the module.
- Meter back light is controlled by inverter or controller
- Easy module removal using 4 chrome thumb screws
- Pull handle to disengage and remove module
- Hot swappable. Circuit discharges in 1/4 second for safety
- A ten year old can safely replace a module in 30 seconds
- 5,000 watt and 6,000 watt versions

200 VDC MPPT meter



B-17 Control Module

- Control Module directs traffic between input breakers, relays, Power modules, MNGP, Aux input and output circuits, voltage sense, 4 meters, communications module, Whizbang Jr, temp sense and stacking
- Control Module is not hot swappable. System is non functional without it.
- A Power Module failure will not take the system down. A Control Module failure will take it down.
- The Control Module communicates with the talking MNGP for voice activated annoyances
- A talking MNGP comes standard with both B17 models
- Four MNSPD's come standard on the B17-5.



B-17 Control Module

- Control Module has a meter that shows battery voltage, battery current and battery state of charge
- Meter mode is selectable by a rotary switch
- Control Module must have ribbon cables removed prior to removing the module
- Access is from a removable top cover and/or side cover.



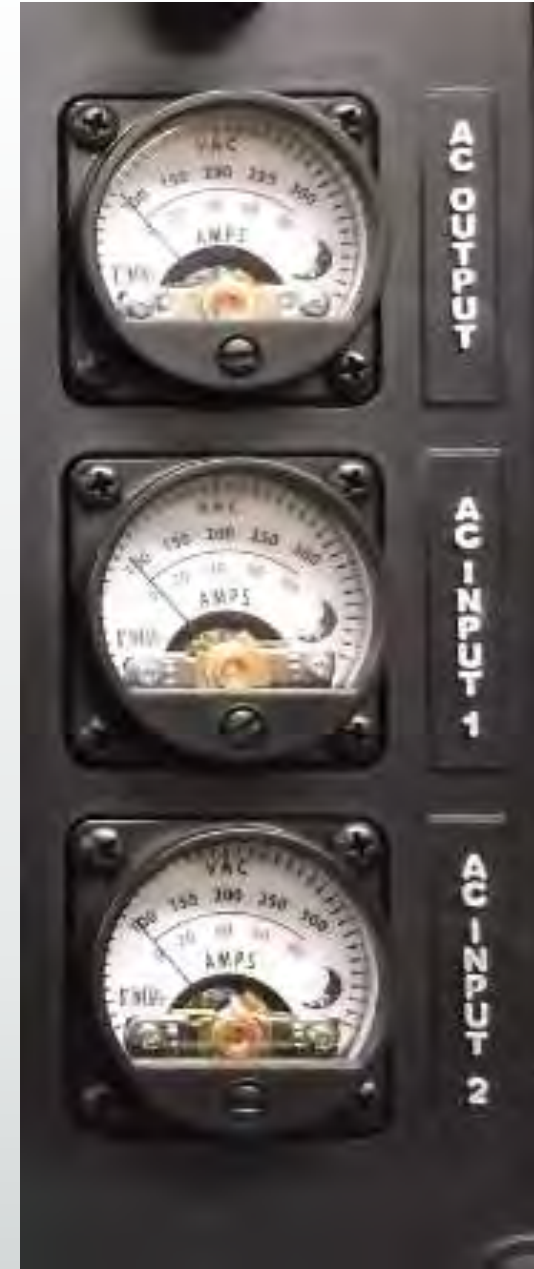
B-17 E-Panel

- E-Panel section is not removable
- Breakers on front include:
 - 250 amp battery breaker
 - Two 100 amp/600VDC MPPT input
 - Two 80 amp 120/240VAC input breakers
 - 80 amp input/output bypass
- B17-3 has only one MPPT input and only one 80 amp AC input breakers



Input/Output Meters

- The three meters are for AC input-1, AC input-2 and AC output
- When there is AC in present, the input and output meters should match. If not, that is a clue to help troubleshoot the problem



E-Panel Switch

- The switch on the E-Panel section selects the meter dial mode from AC current to AC volts.
- The third switch position turns on the Bomb Bay light.
- This is an array of ten white lights inside the wiring compartment so you do not have to hook things up in the dark.



B-17 Bomb Bay Lights

- The Bomb Bay Light and 9V Nickel Metal Hydride battery



B-17 Jacks and Terminals

- Stacking
- RS232 for Classics
- MNGP display
- Bat volt sense
- Aux 1, 2 and 3



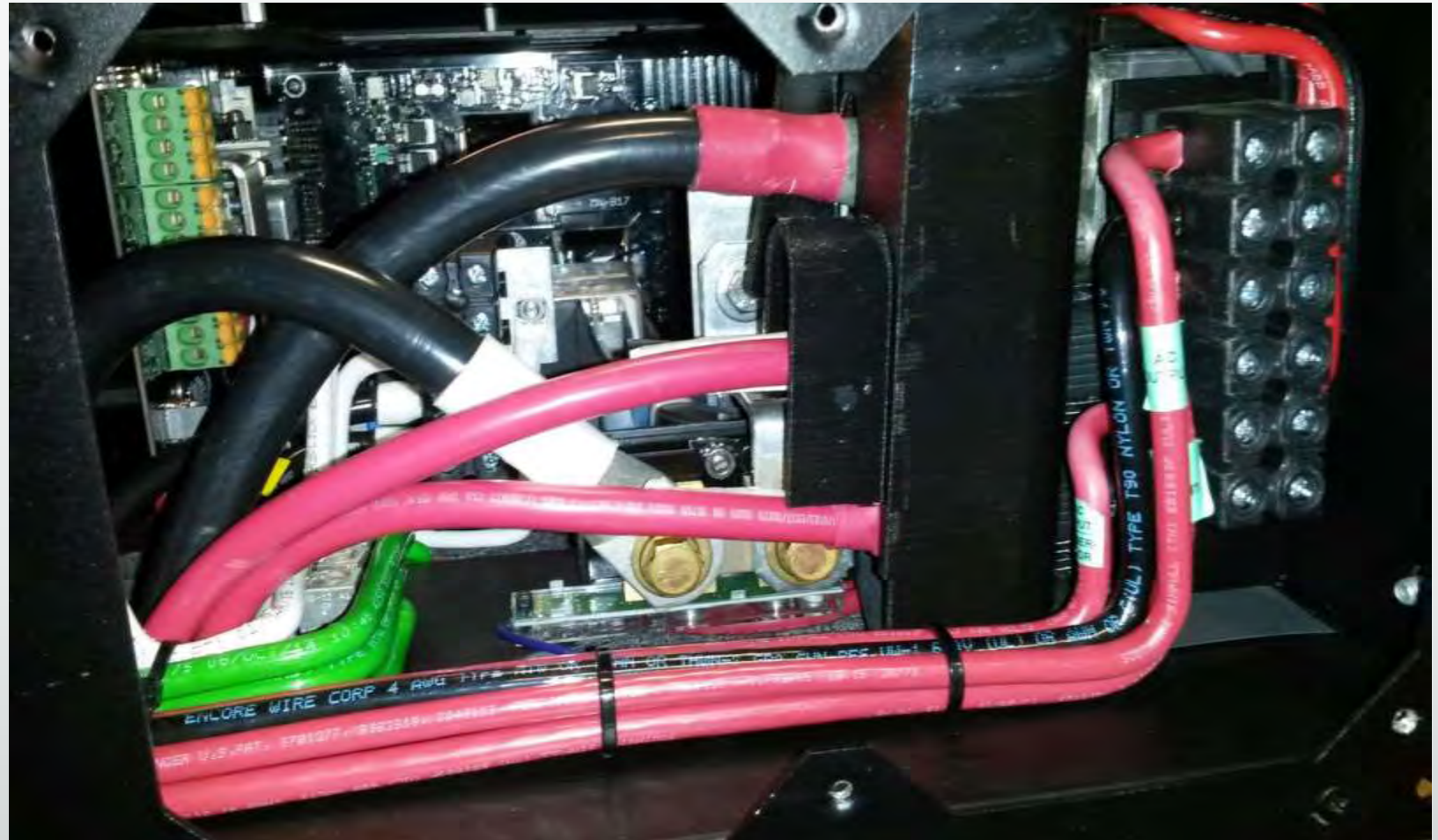
B-17 Wiring Compartment

- On the left are the terminals where the SPDs connect
- In the middle are the AC Neutral and PV minus terminals



B-17 Wiring Compartment

- AC input/output
- Bat +&- up to 250MCM
- AC up to #2
- PV input 1 and 2



B-17 Easy Access

- Wiring knockouts located on bottom, top, side and back



B-17 Surge Protection

- B17-5 comes with 4 SPD's standard



Batteries and Enclosures

- We are working with 2 battery companies at the present.
- We are planning a look-a-like B17 that is actually plug in Li-On battery packs



GTI 750 Inverter

- 750 watt Wind grid tie inverter with Bluetooth and display
- Pairs seamlessly with the MidNite 500W Chinook Grid Tie wind turbine
- Robust weather resistant case
- Fast, easy setup!

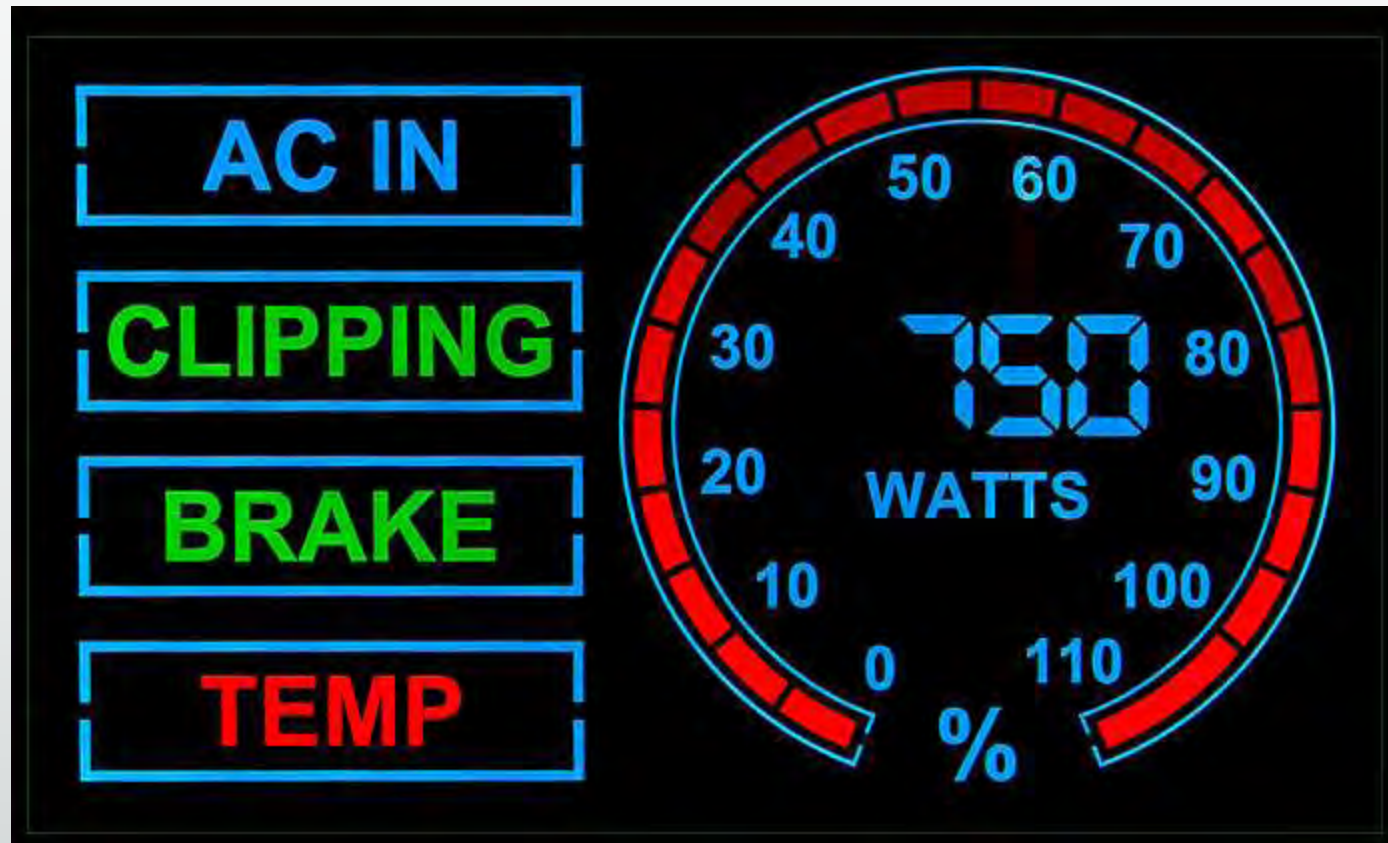


GTI 750 Inverter (inside)



GTI 750 Display

Large graphics display allows for visual system status and easy interaction.

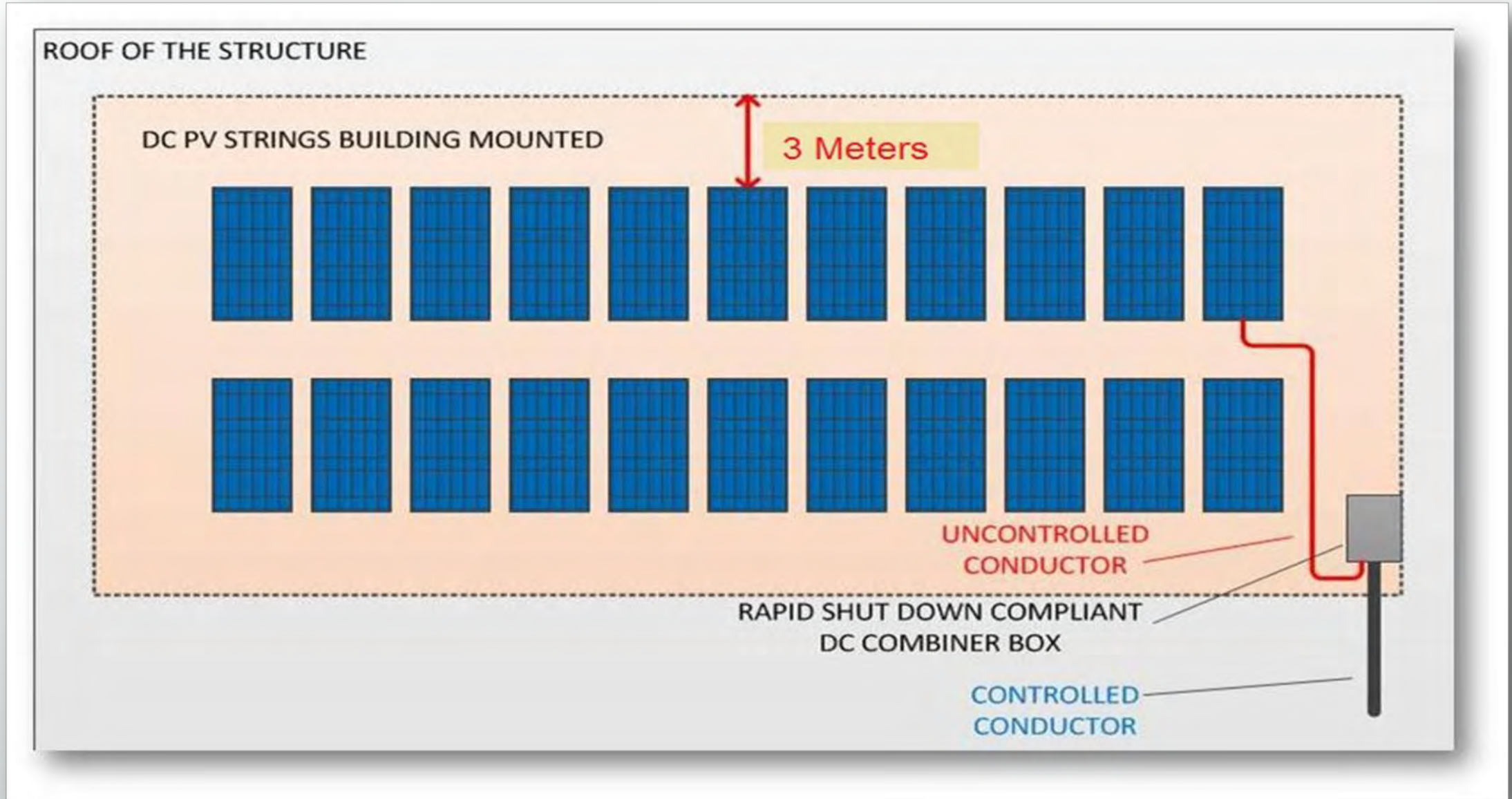


GTI Series Inverters

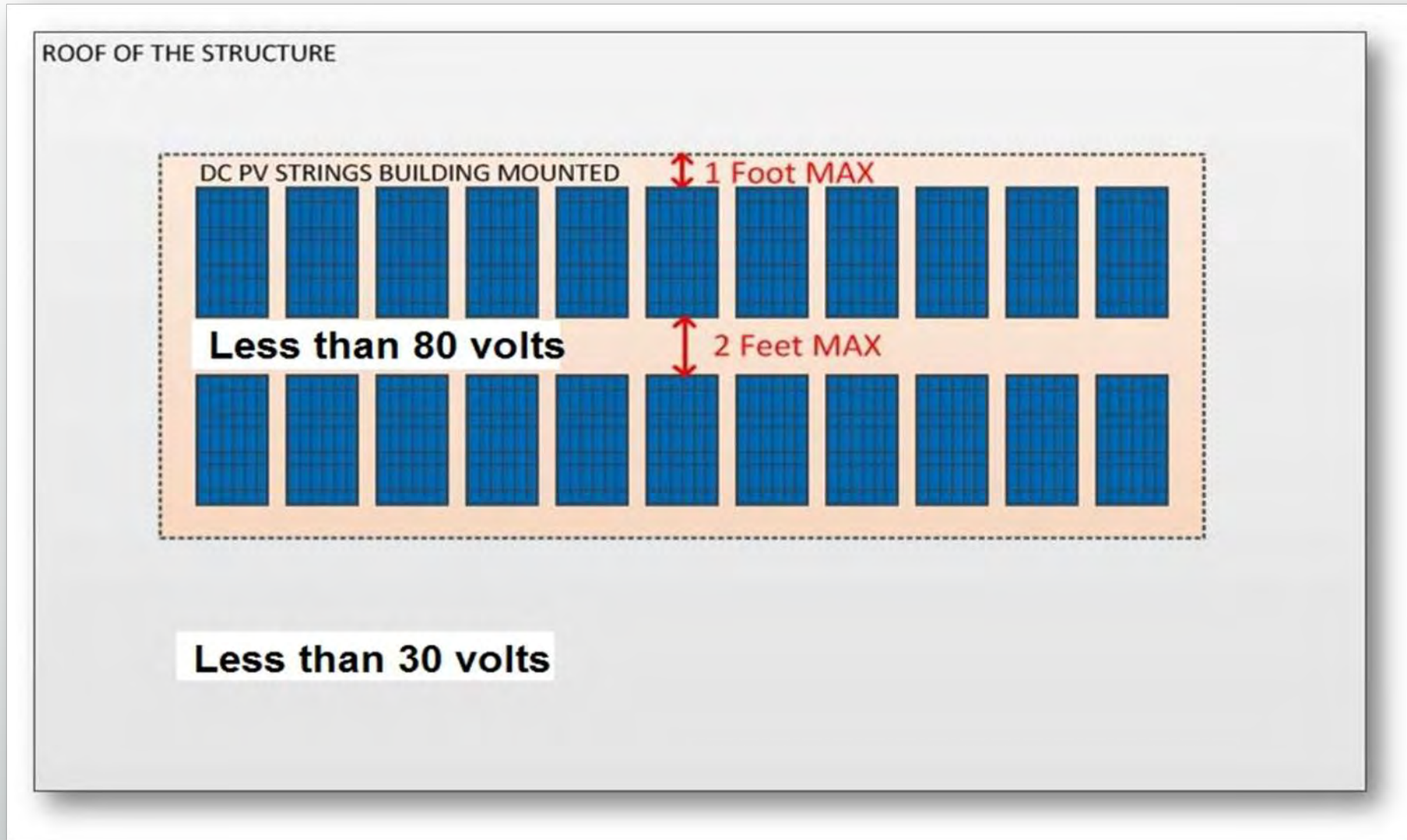
- 750 watt Solar grid tie inverter
- 1000 watt battery based grid tie inverter/charger
- AC couple all three
- A 1500 watt series of these inverters is in development now



2014 Rapid Shutdown requirements



2017 NEC 690.12 in the US (2019)



MidNite Solar's Little SOB

- Most economical Rapid Shutdown system on the market
- Super fast installation for new and existing systems
- Dependable and easy to trouble shoot



Receiver

Transmitter



Rapid Shutdown System

- A transmitter is placed inside a grid tie inverter wiring compartment
- A receiver is placed at the end of each string. Up to six strings
- Module level shut down can be achieved by installing one receiver per panel
- Coming soon: a 1000 volt receiver



Receiver



Transmitter

MidNite Solar's Little SOB

- Receiver is fail safe, if PLC signal goes away, the system shuts down
- The PV positive wire runs through the transmitter core to induce a signal in the PV wire
- Transmitter requires 12-16 vdc to power supply
- Coming soon: a transmitter that runs on 90 – 305 vac



MidNite Solar's Little SOB

- All of these configurations are presently being evaluated by TUV to UL1741
- Approval estimated to be 3rd quarter 2017



Receiver

Transmitter



Tidbits

- B17 beta units- Robin says available this fall-stay tuned
- The C1D2 version of the Kid charge controller- July 2017
- 750 watt solar or wind GT inverter- 1st quarter 2018
 - Battery based version- 2nd quarter 2018
 - 1500 watt version- 1 year or more
- 200 watt Chinook- new version available later this year
- 500 watt Chinook- stay tuned
 - Sign up for Beta Testing:
<http://www.midnitesolar.com/beta.php>



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