

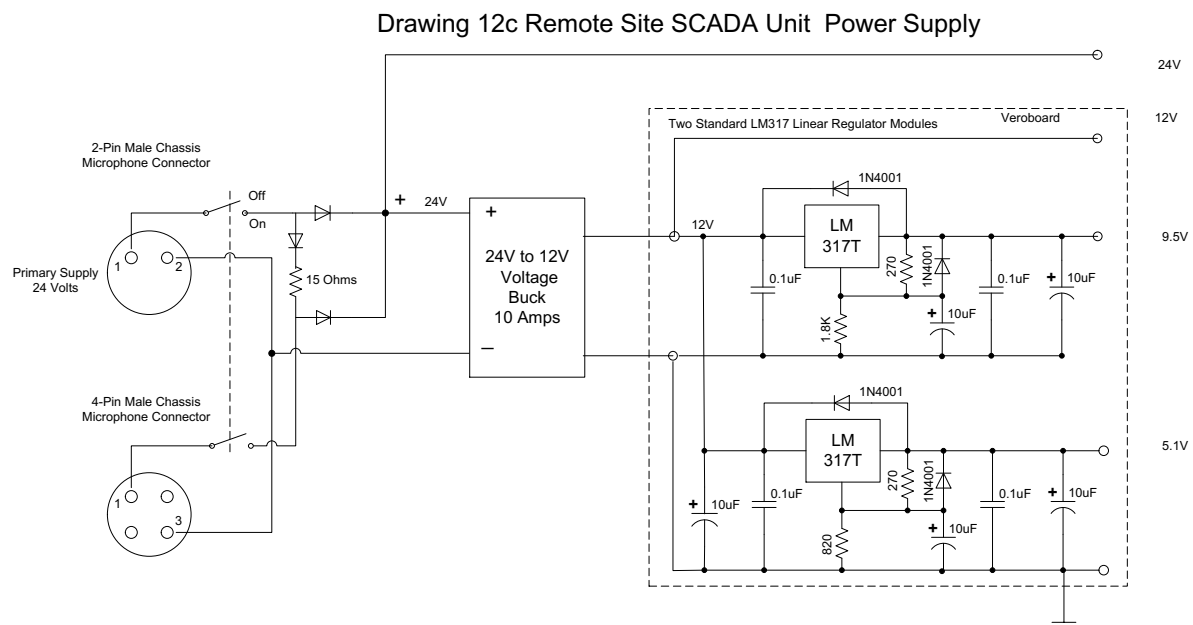
As Built Note 4 site SCADA Unit back-up Power Supply

This note describes a modification to the Site SCADA Unit to allow continued operation in the event of a loss of the 24V primary supply.

A four-pin backup battery connector is added to the SCADA Unit.

Isolating diodes are inserted in the battery supply lines so that the backup supply does not feed back into the Primary supply. A further diode and a 15-Ohm resistor have been added to trickle charge the UPS battery from the primary 24V supply.

The Backup supply uses 2x 7Ah gel 12V gel batteries. The trickle charging arrangement is very basic and simple. If there is a sustained drain on the UPS supply, its recovery when the primary supply is restored will be quite slow because the charge rate will be only about 200mA maximum.



Power Supply Description

The Site SCADA Units primary supply is the Station 24Volt system. This is applied to a 24V to 12Volt buck to provide the 12Volts needed to operate several external devices including the Antenna Selector Units and Four square antenna array systems.

The primary input 24V is also applied via a blocking diode and a 15 Ohm resistor to maintain the charge of the separate UPS 24V supply batteries. (Two 12V 7.2ah batteries in series). When the front panel switch is turned off the both the primary Battery and the UPS battery are disconnected from the SCADA Unit and from each other.

The 24V UPS backed up supply is used to operate the OFF ON control modules external to the SCADA unit.

The 9.5V and 5.1V supplies provided by the LM317T regulators are used for the Arduino Mega computers and associated relays and opto-couplers.