SEC America, LLC

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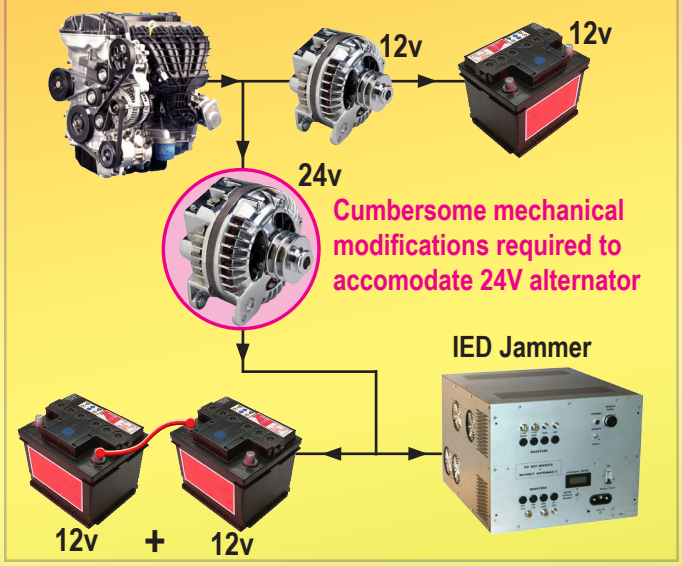
Cage Code: 07KU1

Model 695 DC-DC Converter
IED Jammer Energy Manager

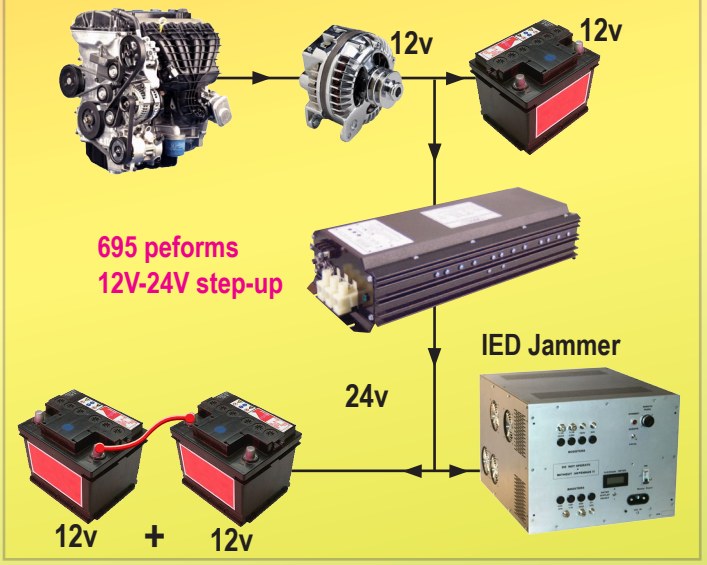
With SEC Model 695:

1. **Eliminate the need to retrofit 12V vehicles with 24V alternators to supply IED jammer power.**
2. **Utilize vehicles' reserve electrical capacity without risk of deeply discharging the ignition battery.**

Conventional Solution



SEC Solution



- **Model 695** was designed for use in conjunction with a 24 Volt battery bank or independently. **Model 695** will power 24V equipment in 12V vehicles, ideally in sedans and SUV's.
- **Model 695** has the flexibility to deliver user selectable continuous maximum output load currents of 20A, 40A or 55A. (Corresponding to approximately 45A , 90A and 120A respectively drawn from the 12V vehicular system in which it is installed.) This flexibility makes **Model 695** suitable to almost any 12V vehicle exploiting the maximum power safely available without exceeding the vehicle's alternator rating.
- **Model 695**'s low voltage cutout circuitry monitors the vehicle's 12V level, and automatically disconnects the converter input from the vehicle's 12V system when the battery voltage reduces to a low level. This ensures that the vehicle's source battery will not be depleted below the critical voltage required for engine ignition. This circuit is internally adjustable.
- **Model 695** can be turned on manually or activated from the vehicle's ignition switch.
- **Model 695** has four point mounting and is supplied with battery cables and terminals for load cabling.
- **Model 695** is designed to withstand vehicular mobile vibration, hot temperatures and rough handling. In addition, it has been field proven in RFI-saturated IED jammer environments.
- In many IED jammer applications, the **Model 695** eliminates the need to complement the vehicle energy system with cumbersome add-ons like gasoline or Diesel generators, or auxiliary 24V alternators which are difficult to install. Instead, **Model 695**'s flexibility combined with the appropriate 24V battery bank will satisfy almost every operational requirement. High reliability, simplicity and overall minimum implementation costs make the **Model 695** the perfect mate for the IED jammer installation.

Examples of Power Management by Model 695 in a Toyota Land Cruiser SUV

Example	Alternator Rating	Amps Needed for Vehicle Consumption	Available Alternator Amps For Model 695	Available 27V Output Amps Model 695 (Alternator Contribution)*	Model 695 Max. Output Amps Recommended setting
1	80A	30A	50A	22.7 Amps	20 Amps (CB1 turned on)
2	120A	30A	90A	40.9 Amps	40 Amps (CB1 & CB2 turned on)
3	120A	30A	90A	40.9 Amps	55 Amps (CB1,CB2 & CB3 turned on)

(CB1, CB2 & CB3 are turned on when depressed)

Example #1

For a required continous run time of 2 hours, a 40A/24V jammer will operate with a 40 A-Hr., 24V Battery Bank. 20A will be supplied continuously by the Model 695 and 20A will be supplemented by the battery bank. Two conventional 45 AHr lead acid batteries connected in series will accomplish these results.

For a required run time of 4 hours with the same jammer an 80AHr battery bank would be needed. The 695 would supply 20A continously and 20A would be supplemented by the battery bank.

Example #2

With 40A contiuously available from the 695, two conventional 45 Ahr lead acid batteries would be adequate to operate the equipment indefinitely.

Example #3

For a jammer requiring 60A, the model 695 will supply 40A, while the 40 Ahr., 24V battery bank will furnish the additional 20A. This condition will last for 2 hours until the 24V battery bank is depleted at which time the Model 695 will take over, providing all of the jammer power. This will cause to be drawn 162A** from the totality of the SUV's 12V electrical system - 42A more than its alternator capacity. This will impose a 42A discharge rate on the SUV's 12V ignition battery until the 695's low input voltage cutout of 11.5 VDC is reached. At this point the 695 will turn off and cease supplying 24V power to its output and protect the ignition battery from further discharge.

*** Maximum Available 27V Output Current from Model 695 (Alternator Contribution) = (Available Alternator Current) divided by 2.2**

**** Jammer Current Demand of 60A at 24 VDC through Model 695 translates into (60 x 2.2) = 132A at 12V and added is 30A consumed by the SUV**

General Specification-Model 695 DC-DC Converter

Electrical Specifications:

Output Voltage:	26.4 Nominal (Internally adjustable +,- 0.5V)
Output Voltage Adjust Range	24.5 VDC to 28.0 VDC (internally adjustable, consult owner's manual)
Continuous Max Load Amps:	55 ADC @ 40C ambient (Input 26.4)
	40 ADC @ 60C ambient
Efficiency:	91% @ Full Load (55A, 26.4 VDC out)
Maximum Input Current:	125 A (12 VDC in)
Overload Protection:	Electronically current limited (primary protection)
	Circuit Breakers at the Input (secondary protection)
Cooling:	Convection or Forced Air
	Thermostat Controlled Fan
Output Ripple Voltage:	10 mV RMS (20C to 75C)
	50 mV RMS (-30C)
Input Voltage Range:	11 VDC to 15 VDC
Input Output Isolation:	Input and Output returns are common

Low Voltage Cutout Circuit:

Low Voltage cutout point:	Adjustable from 10.5 VDC to 13 VDC
	(internally adjustable, consult owner's manual)
Low Voltage Cutout Hysteresis:	1.2 VDC @ 13.0 V/ 0.9 VDC @ 10.5 VDC

Activation Circuits:

1) Model 695 may be activated through the command terminal #1 of terminal block TBA which when connected to +12 VDC of the vehicle will turn on the converter.
2) Model 695 may be turned on in sections by using the circuit breakers on the front panel.

Environmental:

Ambient Operating Temperature:	-30C to + 60C
Maximum Humidy:	90% non condensing
Maximum Elevation:	6000 meters above sea level

Mechanical Specifications:

Dimensions:	17.0 L x 7.0W x 3.5 H (inches overall maximum)
Shipping Weight:	15 lb.
Construction:	Aluminum housing with painted steel wrap around
Mounting Method:	#12 Hardware via front and rear mounting flanges
Mounting Centers:	16.5 x 3.87 (inches)
Hook Up:	3 Position Splicer Terminal Blocks

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