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Power Supply Pins and Keying Scheme
for
VLBA Module Connectors

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The specification of pin numbers for module connectors to be used for power supply voltages should generally follow that given in VLA Technical Report No. 31, pp. 6-11 to 6-14. An exception is required in the case of power supply modules, since the total current can exceed the rating for a single pin. For power supply modules four pins wired in parallel should be used for both the positive and negative terminals. The current rating per pin depends upon the acceptable temperature rise in the connector block: 5 Amps per pin is fairly conservative. Pin numbers in the 42-pin mixed connector are as follows:

+5 V	pin nos. 1, 2, 3, 4
+15 V	pin nos. 10, 11, 12, 13
+28 V	pin nos. 16, 17, 18, 19
other voltage	pin nos. 28, 29, 30, 31
negative terminal	pin nos. 34, 35, 36, 37

The usage of a module to supply a positive or negative voltage is determined by grounding the appropriate terminal in the rack wiring. Use of different pins for the positive terminal will prevent damage if a power supply module of the wrong voltage type is plugged into a power-supply slot.

To prevent damage if one attempts to insert a power supply module into the slot for a non-power-supply module, the keying of the screws at the corners of the connectors must be chosen to prevent contacting of the pins. The keying scheme should also be chosen to prevent damage from insertion of Baseband Converter modules, in which the connector pins are all of the miniature-coaxicon type, into the wrong slot. To minimize the possibility of damage, the keying scheme shown below is proposed. The diagram shows the module connector as seen looking at the outside of the module back panel. Note that keying does not prevent interconnection if the long pins are used. Thus, for power supplies, the standard-length pins should be used with the mixed 42-pin connector.

