

DELTA - 2 SERIES

**LIGHTNING SURGE PROTECTED
2 POSITION RF COAXIAL SWITCH**



Model DELTA-2 (UHF Female connectors)



Model DELTA-2/N (N Female connectors)

DELTA-2 SERIES COAXIAL SWITCH IS A PRECISION RF SWITCHING DEVICE EMPLOYING THE LATEST HIGH TECHNOLOGY DESIGNS.

SPECIFICATIONS

Power Rating: 1500 watt.

Impedance: 50 ohms

	Frequency	VSWR	Insertion Loss	Isolation
Model DELTA-2 (DC-450MHz)	30 MHz	<1.1:1	0.1dB	>60dB
	150MHz	<1.3:1	<0.2dB	>60dB
Model DELTA-2/N (DC-1300MHz)	450MHz	<1.4:1	<0.4dB	>50dB
	1300MHz	<1.5:1	<0.5dB	50dB

Switch Positions Two, one either side of a 'common' centre connector.

Lightning Surge Protection Alpha Delta Model D-4 internally mounted, field replaceable ceramic gas tube ARC-PLUG Cartridge Pill.

Special Switching Functions When the knob points to the centre (Ground) switch position, all antenna circuits are internally disconnected and grounded. When the knob is in an active position, the unused antenna ports are grounded. The active position circuit is continuously protected by the Model D-4 ARC-PLUG Cartridge Pill.

Grounding Requirements A separate, external ground wire must be used from one set of user supplied mounting hardware (through either thru-hole on the base plate) to the station ground system (not the equipment chassis). The ARC-PLUG Cartridge Pill will not operate without a good ground. Note: Paint should be removed at point of ground hardware connection to base plate. It is also good practice to ground the coax shield at point of entry to the building.

ALPHA-DELTA COMMUNICATIONS INC. (USA)

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ARC-PLUG CARTRIDGE REPLACEMENT

Additional ARC-PLUG Cartridge Replacement Pills are readily available from your ALPHA DELTA dealers at a nominal cost. Replacement in the field is quite easy and the only tool required is a screw-driver.

Should a severe lightning hit occur, the ceramic Gas Tube ARC-PLUG Cartridge Pill will short to ground protecting your equipment. The pill will remain shorted however (unlike its recovery to open circuit condition after a less severe hit or transient) and must be removed or replaced in order to continue operation. If replacement pill is not immediately available you can continue operation (without lightning transient protection) by removing the shorted pill from the switch until you obtain its replacement.

To replace the pill, use a screw-driver to remove the front panel access screw by turning it counter-clockwise. Then turn the switch upside down until the ARC-PLUG Cartridge Pill drops out of the access hole. Now, turn the switch right side up, drop the new ARC-PLUG Cartridge Pill into the access hole. (Make sure the Pill is lying with its metal surface up) then, insert the set screw and tighten it in a clock-wise direction with the screw-driver until finger tight. (CAUTION: Over-tightening of the set screw can damage the ARC-PLUG Pill.

Note: The ALPHA DELTA Model D-4 ARC-PLUG Cartridge Pill is designed to reduce the hazards of lightning induced, or other high voltage induced surges. This device, however, will not prevent fire or damage caused by direct lightning strike to an antenna, power lines or other structure.

Caution: Do not change switch positions while RF is applied, or when the back cover is removed. This can cause damage to the switch contacts and such damage will not be covered by our warranty.

APPLICATION INFORMATION

Both models DELTA-2 and DELTA-4 switch can be used in several different applications, depending upon the installation configuration.

- A. **Multiple Antenna, Single RCVR/XCVR Application** - connect the "jumper" coax from the RCVR/XCVR to the "common" connector on the switch. Connect antenna(s) and/or dummy load to your choice of positions 1&2 (Delta-2) and 1,2,3&4 (Delta-4) on the switch.
- B. **Multiple RCVR, Single Antenna Application** - connect the single antenna coax to the "common" position on the switch. Connect RCVR "jumpers" to your choice of positions 1&2 (Delta-2) and 1,2,3&4 (Delta-4) on the switch.

Note: Switch specifications, including co-channel isolation in dB are guaranteed only when using properly installed 50ohm coaxial cable. Single wire "jumpers" or antenna feeds do not provide proper isolation or VSWR characteristics. For transmitting, any model must be placed at a point in the coax line where VSWR does not exceed 2:1 to prevent high RF voltages from triggering the ARC-PLUG Pill.

Warranty

Seller warrants that each unit sold is manufactured in accordance with Seller's specifications, drawings, samples or data in effect on the date of receipt of the order, as they apply to those parts called for on the order, and that each unit is free from defects from defects in material and workmanship.

Seller's liability under this warranty is limited to the repair or replacement of any unit which proves to be defective in material or workmanship under normal use and service provided the unit is returned to the Alpha Delta shipping point (or authorized distributor if purchased through this source) within six months from date of shipment, and will in no case be responsible for special consequential damages including but not by way of limitation, cost of removal of units from or installation in equipment. This warranty is in lieu of all other warranties expressed or implied.

Seller warrants the DELTA series Coaxial Switch products to be manufactured in its U.S.A factory under strict ISO 9002 compliance, using only the finest of materials and workmanship.

* Alpha Delta's DELTA 2 & 4 series Coaxial Switches are approved and in use by the US NAVY in their patrol boat program.

Alpha Delta Communications Inc. (USA).