

Technical Service Bulletin 040529

Emergency Tube Bypass: IOX/DCX

This bulletin provides a procedure to bypass a failed IOT and connect the solid state IPA amplifiers directly to the transmitter RF system in emergency off-air situations. A means to physically connect the drive signal coax cable to the RF system input must be provided separately. This is typically an N to 3-1/8 adapter connected at the bottom of the IOT output stack or an N to 3-1/8 to waveguide transition connected to the unused port of a four-port switch.

Several different varieties of IOX and DCX transmitters exist. Where necessary, version specific instructions are provided in bold italic writing.

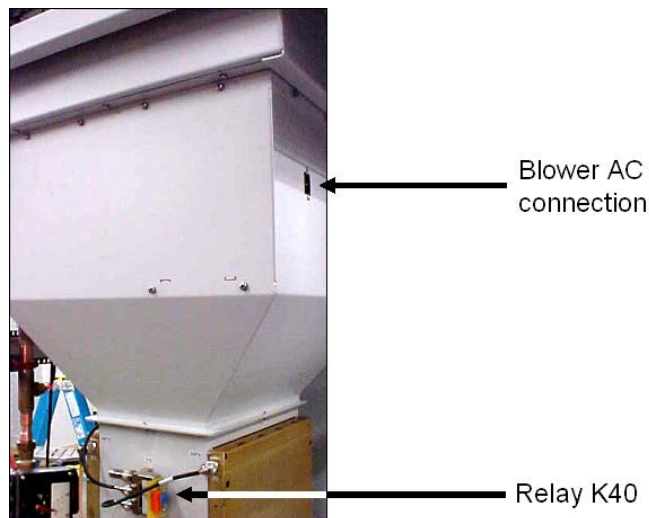
Procedure 040529: IOX/DCX Emergency Tube Bypass Procedure	
Applicability	IOX and DCX transmitters.
Prerequisites	HPA cabinet in Stop Mode.
Equipment Required	N female-female barrels. (Comark P/N 600072-01) N to 3-1/8 RF adapter (Comark P/N 201553-01). ½ inch male-male Heliac jumper cable, 4 feet (Comark P/N 400279-27-48) -(or)- 3-1/8 to waveguide transition and ½ inch Heliac cable, 20 to 50 feet.
Comments	Procedure to place IPA drivers on air. In certain cases, instructions are specific to certain transmitter models: <i>IOX</i> = original IOX with separate driver cabinet. <i>CIOX</i> = IOX with drivers on air chimney inside HPA cabinet. <i>Phase II</i> = CIOX with Exciter built into HPA <i>DCX I</i> = original, non-millennium DCX. <i>DCX M</i> = DCX Millennium.

1. Connect ½ inch Heliac cable from output port of IOT drive circulator (port with bulkhead N connector) to either IOT output stack or waveguide transition on fourth port of waveguide switch.

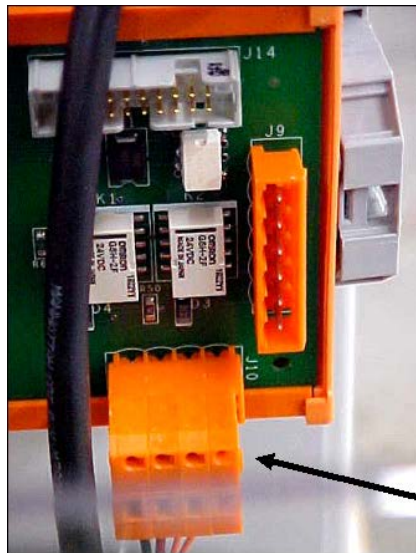
NOTE: A ready-made kit (Comark P/N 453166-01) is available for automated driver-to-air switching. Kit contains retrofit wiring harness, controller software, and RF bypass relay. Harness features Molex connectors for easy installation without any soldering. Driver output may be routed to either unused fourth port of station waveguide switch or an entirely new switch installed expressly for this purpose. Necessary waveguide transition and/or additional switch not included in kit. Driver-to-Air feature may be activated by local or remote control. Consult Comark for more details.



2. **IOX:** Unplug connector J1 from each amplifier drawer to remove drive inhibit signal. Amplifiers should switch on once J1 is removed.
3. **CIOX, Phase II, DCX I, DCX M:**
 - a. Bypass HPA drive command relay K40 by swapping cable and attenuator attached to NC and NO ports of relay. Unplug orange connector from relay to prevent it from being inadvertently actuated.
 - b. Connect standard equipment power cord to supply an external 120VAC source to cabinet blower. (See photo).



- c. Ensure that front panel driver circuit breaker (CB9) is in ON position.
- d. Unplug J10 (small orange connector) on driver interface board. (See photo). Drivers should turn on once J10 is disconnected.



Connector J10

4. Force appropriate exciter on:

IOX, CIOX: Exciter 1 = jumper TB1-76 and -77 to ground (i.e. TB1-85 for ground)

IOX, CIOX: Exciter 2 = jumper TB1-78 and -79 to ground (where applicable)

Phase II: Exciter = "jumper TB2-76 and -77 to ground (i.e. TB2-45 for ground)

DCX I, DCX M: = place exciter LCL / REM switch in LCL position.

5. Bypass exciter switching relay with N-barrel to hard-wire selected exciter to on-air position (where applicable).
6. **DCX M:** Bypass exciter cabinet drive kill relay K1 with N barrel.
7. Procedure complete.

At Comark, we are constantly striving to improve the satisfaction of both our new and existing customers. Please do not hesitate to contact Comark Customer Service with any questions you may have concerning the contents of this service bulletin.

Comark Communications LLC
104 Feeding Hills Road
Southwick, MA 01077 U.S.A.
1-(800) 345-9295
<http://www.comarktv.com/>