

Replacing quartz crystals is a common task. It is important never to touch crystals or handle them roughly to prevent cracking. Always wear protective gloves when changing quartz crystals to protect vacuum components and crystal quality.

### Replacement Procedure

1. Carefully pull crystal housing from electrical socket. [Fig 1]
2. Carefully insert tapered end of Crystal Snatcher in ceramic backing of crystal housing. [Fig 2]
3. Using a gentle twisting motion, gradually loosen ceramic backing with Crystal Snatcher.
4. Once removed [Fig 3] center crystal housing over empty slot on 10-crystal platen [Fig 4] (arrow indicates empty slot).
  - Note:** Ensure that all crystals in platen are properly seated in slots to prevent cracking when plastic cover is rotated. Gently tapping side of platen helps to loosen crystals that may be stuck by static electricity.
5. Holding crystal housing and platen together, turn both upside down to allow crystal to fall into empty platen slot.
6. Rotate plastic platen cover slot to next unused crystal.
7. Place crystal housing directly over new quartz crystal.
8. Holding crystal housing and platen together, turn both upside down until crystal is received in housing.
  - Note:** If crystal gets stuck on sidewalls of housing, repeat 8 until crystal falls completely in place.
9. Return platen to cabinet.
10. Using Crystal Snatcher with ceramic backing [Fig 3] insert ceramic backing firmly into crystal housing. [Fig 2]
11. Using a slight rocking side-to-side motion, Crystal Snatcher should be easily removed from ceramic backing without disengaging ceramic from housing.
12. Reinsert crystal housing to electrical socket, and check crystal health.

**Note:** Gold-coated quartz crystals are most common (Fig 4 shows gold-coated quartz crystals after indium deposition). The Microfabrication Lab may also have silver+aluminum-(AgAl) or aluminum-coated quartz crystals for special applications requiring greater resistance to film stress. These appear silver in color and may arrive in black plastic platens.

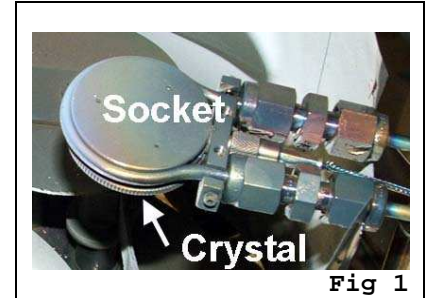


Fig 1

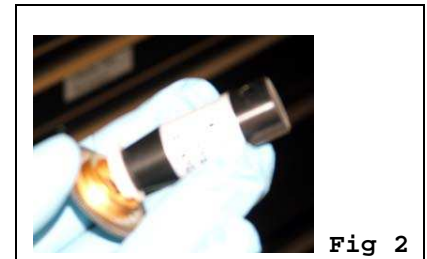


Fig 2



Fig 3

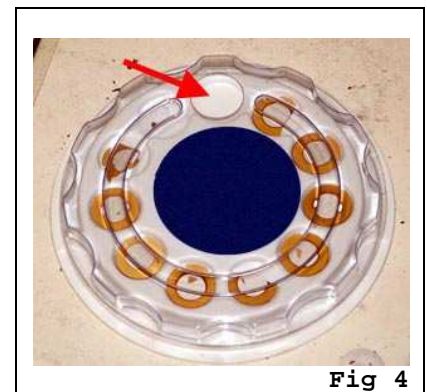


Fig 4