WHAT IS CLAIMED IS:

1. An optical fiber alignment device comprising:

an alignment housing including first and second ends, the alignment housing defining a fiber insertion axis that extends through the alignment housing between the first and second ends, the alignment housing including a fiber alignment region at an intermediate location between the first and second ends;

first and second fiber alignment rods positioned within the alignment housing, the first and second fiber alignment rods cooperating to define a fiber alignment groove that extends along the fiber insertion axis, the first and second fiber alignment rods each having rounded ends positioned at the first and second ends of the alignment housing;

first and second fiber contact members positioned within the alignment housing, the first and second fiber contact members comprising lower portions aligned along the fiber insertion axis; and

a biasing arrangement for urging the first and second fiber contact members generally toward the fiber alignment groove.

2. The optical fiber alignment device of claim 1, wherein the first and second fiber contact members comprise spheres.

3. The optical fiber alignment device of claim 1, wherein the first and second contact members comprise balls.

4. The optical fiber alignment device of any of claims 1-3, wherein the alignment housing is a one-piece part.

5. The optical fiber alignment device of any of claims 1-4, wherein the alignment housing is a one-piece molded part.

6. The optical fiber alignment device of any of claims 1-5, wherein the biasing arrangement includes a clip that mounts on the alignment housing such that the first and second contact members are captured within the alignment housing.

7. The optical fiber alignment device of claim 6, wherein the clip includes first and second springs that respectively apply biasing pressure to the first and second contact members.

8. The optical fiber alignment device of claim 7, wherein the first and second springs comprise leaf springs.

9. The optical fiber alignment device of any of claims 6-8, wherein the clip is C-shaped.

10. The optical fiber alignment device of claim 1, wherein the first and second contact members are first and second balls, wherein the alignment housing has a cylindrical outer surface, and wherein a resilient clip including a main body fits over the cylindrical outer surface of the alignment housing, the main body having a generally C-shaped transverse cross-sectional profile, the resilient clip also including first and second leaf springs having base ends integrally formed with the main body, the first and second leaf springs forming the biasing arrangement.

11. The optical fiber alignment device of claim 1, wherein the first and second ends of the alignment housing define partial funnels that cooperate with the rounded ends of the first and second fiber alignment rods to form fiber guides for guiding optical fibers toward the fiber insertion axis.

12. The optical fiber alignment device of any of claims 1-11, wherein the rounded ends are semi-spherical in shape.

13. The fiber optic alignment device of any of claim 1-12, wherein the alignment device is incorporated into a fiber optic adapter.

14. The fiber optic alignment device of any of claims 1-12, wherein the alignment device is incorporated into a converter for converting a ferrule-less connector into a ferruled connector.

15. The optical fiber alignment device of claim 1, wherein the alignment housing comprises a pocket constructed for insertion of the first and second fiber contact members into the alignment housing.

~~15~~16. An optical fiber alignment device comprising:

an alignment housing including first and second ends, the alignment housing defining a fiber insertion axis that extends through the alignment housing between the first and second ends, the alignment housing including a fiber alignment region at an intermediate location between the first and second ends, the alignment housing having a cylindrical outer surface;

first and second balls that fit within the alignment housing; and

a resilient clip including a main body that fits over the cylindrical outer surface of the alignment housing, the main body having a generally C-shaped transverse cross-sectional profile, the resilient clip also including first and second leaf springs having base ends integrally formed with the main body, the first and second leaf springs urging the first and second balls in a direction transverse with respect to the fiber insertion axis.

~~16~~17. The optical fiber alignment device of claim ~~15~~16, wherein the alignment housing defines an optical fiber alignment groove that extends within the alignment housing along the fiber insertion axis.

~~17~~18. The optical fiber alignment device of claim ~~15~~16, wherein the first and second ends of the alignment housing define funnel structures for guiding optical fibers toward the fiber insertion axis.

~~18~~19. The optical fiber alignment device of claim ~~17~~18, wherein the funnel structures include partial funnels.

~~19~~20. The optical fiber alignment device of claim ~~17~~18, wherein the funnel structures include full funnels.

~~20~~21. The optical fiber alignment device of claim ~~15~~16, further comprising first and second fiber alignment rods positioned within the alignment housing, the first and second fiber alignment rods cooperating to define a fiber alignment groove that extends along the fiber insertion axis, the first and second fiber alignment rods each having rounded ends positioned at the first and second ends of the alignment housing.

~~21~~22. The optical fiber alignment device of claim ~~20~~21, wherein the rounded ends are semi-spherical in shape.

~~22~~23. The optical fiber alignment device of claim ~~20~~21, wherein the first and second ends of the alignment housing define partial funnels that cooperate with the rounded ends of the first and second fiber alignment rods to form fiber guides for guiding optical fibers toward the fiber insertion axis.

~~23~~24. An optical fiber alignment device comprising:

an alignment housing including first and second ends, the alignment housing defining a fiber insertion axis that extends through the alignment housing between the first and second ends, the alignment housing including a fiber alignment region at an intermediate location between the first and second ends, the fiber alignment region including an alignment groove that extends along the fiber insertion axis and a pocket,

the first end of the alignment housing including a first funnel that extends along the fiber insertion axis for guiding a first optical fiber into the fiber alignment region, the second end of the alignment housing including a second funnel that extends along the fiber insertion axis for guiding a second optical fiber into the fiber alignment region;

first and second fiber contact members positioned within the pocket of the alignment housing; and

a biasing arrangement for urging the first and second fiber contact members generally toward the alignment groove.

~~24~~25. The optical fiber alignment device of claim ~~23~~24, wherein the first and second fiber contact members comprise spheres.

~~25~~26. The optical fiber alignment device of claim ~~23~~24, wherein the first and second contact members comprise balls.

~~26~~27. The optical fiber alignment device of any of claims ~~23~~24-~~25~~26, wherein the first and second funnels and the alignment groove are integrally formed as part of the alignment housing.

~~27~~28. The optical fiber alignment device of any of claims ~~23~~24-~~26~~27, wherein the alignment housing is a one-piece part.

~~28~~29. The optical fiber alignment device of any of claims ~~23~~24-~~27~~28, wherein the alignment housing is a one-piece molded part.

~~29~~30. The optical fiber alignment device of any of claims ~~23~~24-~~28~~29, wherein the biasing arrangement includes a clip that mounts on the alignment housing and at least partially covers the pocket such that the first and second contact members are captured within the pocket.

3031. The optical fiber alignment device of claim 2930, wherein the clip snap-fits on the alignment housing.

3132. The optical fiber alignment device of claim 3031, wherein the clip includes first and second springs that respectively apply biasing pressure to the first and second contact members.

3233. The optical fiber alignment device of claim 3132, wherein the first and second springs comprise leaf springs.

3334. The optical fiber alignment device of claim 3233, wherein the leaf springs extend in opposite directions.

3435. The optical fiber alignment device of any of claims 2930-3334, wherein the clip is C-shaped.

3536. The optical fiber alignment device of any of claims 2324-3435, wherein the alignment groove has a V-shaped transverse cross-sectional shape.

3637. The optical fiber alignment device of any of claims 2324-3435, wherein the alignment groove has a curved transverse cross-sectional shape.

3738. The optical fiber alignment device of any of claims 2324-3435, wherein the alignment groove has a semi-circular transverse cross-sectional shape.

3839. The optical fiber alignment device of any of claims 2324-3738, wherein the alignment housing mounts within a fiber optic connector body.

~~39~~40. The optical fiber alignment device of any of claims ~~23~~24-~~37~~38, wherein the alignment housing mounts within a fiber optic adapter configured for receiving a fiber optic connector.

~~40. A fiber optic connector comprising:~~

~~a connector body having an interface end;~~

~~a shutter mounted at the interface end of the connector body, the shutter being movable between a closed position and an open position; and~~

~~a latch mechanism carried with the connector body, the latch mechanism being movable between a latching position where the latch mechanism retains the shutter in the closed position, and a release position where the shutter can be moved from the closed position to the open position.~~

~~41. The fiber optic connector of claim 40, wherein the connector includes an optical fiber having an end face that can be accessed at the interface end of the connector body when the shutter is in the open position, and wherein the end face of the optical fiber is blocked from being accessed by the shutter when the shutter is in the closed position.~~

~~42. The fiber optic connector of claim 41, wherein the connector is a ferrule-less connector and the end face of the optical fiber is provided at a ferrule-less end portion of the optical fiber.~~

~~43. The fiber optic connector of claim 40, wherein the latching mechanism includes a latching arm that is spring biased toward the latching position.~~

~~44. The fiber optic connector of claim 43, wherein the latching arm extends along a bottom of the connector body and includes a downwardly projecting release tab having an angled ramp surface.~~

~~45. The fiber optic connector of claim 43, wherein the latching arm flexes laterally between the latching position and the release position.~~

~~46. The fiber optic connector of claim 40, wherein the shutter is pivotally connected to the connector body at a pivot axis located at a top of the connector body, wherein the shutter includes a lever actuator that projects upwardly from a main body of the shutter when the shutter is in the closed position, and wherein the latch mechanism is positioned at a bottom of the connector body.~~

~~47. The fiber optic connector of claim 46, wherein the latch mechanism includes a clip having a main body that straddles the connector body to secure the clip to the connector body, and wherein the clip also includes first and second latching arms that extend from the main body longitudinally along the connector body toward the interface end of the connector body.~~

~~48. The fiber optic connector of claim 47, wherein the first and second latching arms include hook portions that fit within receptacles defined by the shutter to retain the shutter in the closed position.~~

~~49. The fiber optic connector of claim 48, wherein the first and second latching arms flex laterally outwardly to disengage the hook portions from the receptacles.~~

~~50. The fiber optic connector of claim 49, wherein the first and second latching arms include downwardly projecting release tabs having ramp surfaces.~~

~~51. A connection system including the fiber optic connector of claim 40, the connection system including a fiber optic adapter including a port for receiving the fiber optic connector, the fiber optic adapter including a first means for moving the latch mechanism from the latching position to the release position when the fiber optic connector is inserted in the port, the fiber optic adapter also including a second means~~

~~for moving the shutter from the closed position to the open position when the fiber optic connector is inserted into the port.~~

~~52. A connection system including the fiber optic connector of claim 44, the connection system including a fiber optic adapter including a port for receiving the fiber optic connector, the fiber optic adapter including a rail that engages the release tab of the latching arm to laterally move the latching arm from the latching position to the release position as the fiber optic connector is inserted into the port.~~

~~53. A connection system including the fiber optic connector of claim 44, the connection system including a fiber optic adapter including a port for receiving the fiber optic connector, the fiber optic adapter including a rail that engages the latching mechanism to move the latching mechanism from the latching position to the release position as the fiber optic connector is inserted in the port, and wherein the fiber optic adapter includes an actuation post that engages the actuation lever of the shutter to move the shutter from the closed position to the open position as the fiber optic connector is inserted into the port.~~

~~54. A connection system including the fiber optic connector of claim 50, the connection system including a fiber optic adapter including a port for receiving the fiber optic connector, the fiber optic adapter including parallel rails that engages the release tabs of the first and second latching arms to laterally move the first and second latching arms from the latching position to the release position as the fiber optic connector is inserted into the port.~~

~~55. A fiber optic adapter for use with a fiber optic connector having a shutter and a latch for latching the shutter in a closed position, comprising:~~

~~an adapter body defining a first port and a second port;~~

~~a fiber alignment device positioned within the adapter body;~~

~~latch disengagement rails positioned within the first and second ports for moving the latch from a latching position to a release position; and~~

~~shutter actuation members positioned within the first and second ports for moving the shutter from the closed positioned to an open position.~~

~~56~~41. A converter for converting a ferrule-less connector to a ferruled connector, the converter comprising:

a converter body having a rear end and a front end, the rear end being configured to receive the ferrule-less connector;

a ferrule assembly mounted at the front end of the converter body, the ferrule assembly including a ferrule and a ferrule hub mounted to the ferrule adjacent a rear end of the ferrule, the ferrule assembly also including an optical fiber stub potted in the ferrule, the optical fiber stub having a rear portion that projects rearwardly from the rear end of the ferrule; and

an optical fiber alignment device carried with the ferrule assembly and positioned at least partially within the ferrule hub, the optical fiber alignment device defining a fiber insertion axis, the optical fiber alignment device including an alignment housing containing first and second alignment balls that are spring biased toward the fiber insertion axis, the rear portion of the optical fiber stub being aligned along the insertion axis and extending within the alignment housing, the first alignment ball clamping the rear portion of the optical fiber stub.

~~57~~42. The converter of claim ~~56~~41, further comprising a spring that biases the ferrule assembly in a forward direction.

~~58~~43. The converter of claim ~~57~~42, wherein the spring includes a spring washer.

~~59~~44. The converter of claim ~~56~~41, wherein the alignment housing is recessed at least partially within the rear end of the ferrule.

~~60~~45. The fiber optic alignment device of claims 1, ~~15~~16 or ~~23~~24, wherein the alignment device is recessed at least partially in a rear end of a ferrule.

~~61~~46. A fiber optic apparatus comprising:

a ferrule;

an optical fiber stub potted in the ferrule; and

an optical fiber alignment device recessed at least partially within a rear end of the ferrule, the optical fiber alignment device defining a fiber insertion axis, the optical fiber alignment device including an alignment housing containing first and second fiber contact members that are spring biased toward the fiber insertion axis, wherein the first and second fiber contact members comprise balls, the first fiber contact member clamping a rear portion of the optical fiber stub.

~~62~~47. The fiber optic apparatus of claim ~~61~~46, wherein the first and second fiber contact members are balls.