



New connection on: : 20-11-2020 : 18:03:09 - Last disconnection on: : 20-11-2020 : 17:39:58

V 4.0.0.44803(LP,U,linux) (Rev:43856 2017-04-27 09:03:29 +0200#(D201820)) (RPM D201820)

Welcome to EPOQUE Rebuild under the Production Environment

[EPODOC: SS 6] sealing and multiport and splitters and system and fiber and optic and /IC (G02B)

Results in EPODOC 0

[SS 7] seal+ and splitters and system

Results in EPODOC 14

[SS 8] ..li



1/14 © EPODOC / EPO

PN - [RU2726591](#) C1 20200714

PR - RU20190121125 20190703

AP - RU20190121125 20190703

DT - I

CT - || STSE (C1)

[RU2330621](#) C1 20080810 [] (RUKHLJADA NIKOLAJ VASIL EVICH [RU], et al);

[RU2664631](#) C1 20180821 [] (FEDERALNOE GOSUDARSTVENNOE BYUDZHETNOE VOENNOE OBRAZOVATELNOE UCHREZHDENIE VYSSHEGO OBRAZOVANIYA VOE [RU]);

[SU1699435](#) A1 19911223 [] (NAUCHNYJ TS KHIRURGII AMN SSSR [SU], et al)

CTNP - || STSE (C1)

[] - РЫБАКОВ А.С. и др. Изолированная доленая артериопортальная перфузия печени в эксперименте. Вестник российской военно-медицинской академии. 2018, N3(63), С.180-184.

[] - ЩЕРБА А.Е. и др. Предреперфузионная портально-артериальная перфузия трансплантата печени раствором НТК, содержащим такролимус, уменьшает частоту возникновения ранней дисфункции трансплантата печени. Вестник трансплантологии и искусственных органов. 2015, Т. XVII N3, С. 24-31.

[] - ROBERTO TROISI et al. Modulation of Portal Graft Inflow: A Necessity in Adult Living-Donor Liver Transplantation? Ann Surg.2003, N 237(3), P. 429-436.

[] - SRINEVAS K. REDDY et al. Isolated hepatic perfusion for patients with liver metastases. Ther Adv Med Oncol. 2014, N 6(4), P. 180-194.

CI - A61B17/00 (RU)

- A61M1/00 (RU)

- G09B23/28 (RU)

PA - FEDERALNOEGOSUDARSTVENNOEBYUDZHETNOEVOENNOEOBRAZOVATELNOE UCHREZHDENIE VYSSHEGO OBRAZOVANIYA VOE [RU]

TI - METHOD OF ISOLATED LOBAR ARTERIO-CAVAL PERFUSION OF LIVER IN EXPERIMENT

AB - FIELD: medicine.SUBSTANCE: invention refers to medicine, namely to surgery, oncology and transplantology. After explantation of cadaver liver perfusable fraction for perfusion is determined with required preparation and conditionally perfusable contralateral portion - a fraction for creation of hydrodynamic conditions corresponding to physiological ones. Further, a ligamentous hepatic ligature is

ligated, a portal vein (PV) of the explosive, its branches, a proper hepatic artery - PHA, a right - RA and a left LA - branch are mobilized, and a retro-hepatic segment RHS - an inferior vena cava - IVC is mobilized. Then, using a monopolar electric coagulator, a gallbladder is removed; then, cannulas with an external diameter of 2 to 3 mm in RA and LA are successively installed. Thereafter, a vascular turnstile is applied on the explosives to rule out the retrograde leak of the perfusate. Further, cannula of 25 to 35 mm is inserted into the RHS IVC; its distal and proximal ends are **sealed**. Thereafter, an open perfusion loop is formed by attaching inflow systems from a reservoir with a perfusate to a liver preparation, attaching an effluent **system** from the preparation to a reservoir - to a cannula in the RHS IVC, composition of the circuit also includes reservoirs with a solution for perfusion and for its collection at the outlet of the contour, two peristaltic pumps for inflow separately to the RA and LA, a thermostatic bath and connectors for connection of infusion filters, **splitters**, extensions, tees for infusion systems. Solutions of the water-soluble dye in the volume of up to 80-100 ml are introduced into the arterial cannula to determine the interlobar border of the liver. Further, the detected intersectional boundary is marked with X-ray positive objects. That is followed by separate perfusion of liver lobes: for the perfusion fraction in the following regimen: flow rate - 110-350 ml/min, duration - 20 min, perfusate temperature - 41-43 °C. For the conventionally perfused contralateral lobe in the mode: flow rate - 110-350 ml/min, duration - 20 min, temperature of perfusate - 20-30 °C. Perfusate flow rate in the perfused fraction should not exceed that in the conditionally perfusable fraction. Further, during perfusion, a water-soluble X-ray contrast solution with total volume of up to 100-150 ml is administered. That is followed by X-ray examination using an X-ray diagnostic apparatus. EFFECT: method enables performing sequential surgical procedures that enable to isolate the arterial blood flow of the liver and perform its selective perfusion with the required preparation, method enables improving previous methods and developing new methods for combined treatment of multiple bilobar liver injuries, as well as creating a basis for using transplantation technologies in abdominal ex vivo surgery. 1 cl, 2 ex, 5 dwg

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PN - [RO200900027U](#) U1 20100528
 PR - RO20090000027U 20090624
 AP - RO20090000027U 20090624
 DT - I
 PA - HESPER S A [RO]
 AB - The invention relates to a **sealing-compensating system** for pumps and bidirectional motors, with gear wheels, and for flow **splitters**. According to the invention, the **system** consists of a fittings (8a) made of rubber, a central independent armature (8b) and two lateral independent armatures (8c), made of polyamide, the fittings (8a) being provided with a central channel, open at the ends.

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PN - [US2015009486](#) A1 20150108
 PR - WO2011EP05066 20111011; WO2012IB01393 20120713
 AP - US201214351048 20120713
 DT - **
 CT - || R141 (A1)
 [US2004119020](#) A1 20040624 [] (BODKIN ANDREW [US]);
 [WO9913355](#) A1 19990318 [] (RAYTHEON CO [US]);
 [US2010256940](#) A1 20101007 [] (OGAWA KAZUHIRO [JP], et al)
 CCI - [G01S7/481](#) ; [G01S17/86](#)
 CI - G01C3/08 (US)
 - G01S7/481 (EP, US)

- G01S7/4861 (US)
- G01S17/00 (US)
- G01S17/86 (EP, US)
- PA - POTEMKIN ALEXANDER [DE]; SMIRNOVA ELENA IVANOVA [RU]
- TI - Imaging **System**
- AB - An imaging **system** is provided, having a housing, an inlet opening receiving radiation from objects and an optical **system**. The optical **system** includes a reception channel for visible radiation, an infra-red radiation channel, a channel of the laser range finder having a laser radiation source, a photoreceptor and spectral **splitters**. All channels are optically coupled to one another. An optical element made from a material that transmits the radiation in the working range of the photoreceptor and is inserted into the inlet opening to hermetically **seal** the **system**. The reception channel for the visible radiation and the infra-red radiation channel are constructed as an optoelectronic multichannel **system** having at least two channels, the optical axes of which coincide and are situated inside the inlet opening.

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- PN - [WO2013054162](#) A1 20130418
- PR - WO2011EP05066 20111011
- AP - WO2012IB01393 20120713
- DT - *, Rep
- CT - [EP] ISR (A1)
[WO9913355](#) A1 19990318 [XDI] (RAYTHEON CO [US])
 [XD] 1,3-5
 * abstract *
 * page 2, line 5 - page 3, line 5 *
 * page 4, line 5 - page 5, line 22 *
 * page 7, line 1 - line 27 *
 * page 9, line 17 - page 11, line 2 *
 [I] 2;
[US2006261271](#) A1 20061123 [A] (LEE TZONG-SHENG [TW])
 [A] 1-5
 * paragraph [0020]; figure 1A *;
[WO2004104624](#) A1 20041202 [A] (ELOP ELECTROOPTICS IND LTD [IL], et al)
 [A] 5
 * page 7, lines 1-5 *
- CCI - [G01S7/481](#) ; [G01S17/86](#)
- CI - G01C3/08 (US)
 - G01S7/481 (EP, US)
 - G01S7/4861 (US)
 - G01S17/00 (US)
 - G01S17/86 (EP, US)
- PA - POTEMKIN ALEXANDER [DE]
- TI - IMAGING **SYSTEM**
- AB - Imaging **system** comprising a housing (1), an inlet opening (2) intended to receive the radiation from the objects, and an optical **system**, consisting of: a reception channel for the visible radiation (4); an infra-red radiation channel (5); a channel of the laser range finder (6) comprising a laser radiation source (14), a photoreceptor (7) and spectral **splitters** (8, 9), all channels being optically coupled to one another; and an optical element (3), which is made from a material that transmits the radiation in the working range of the photoreceptor, and is inserted into the inlet opening (2) intended for **sealing** the **system** hermetically, wherein the reception channel for the visible radiation (4) and the infra-red radiation channel (5) are constructed as an optoelectronic multichannel **system** having at least two channels, the optical axes of

which coincide and are situated inside the inlet opening (2).

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- PN - [ES1077394U](#) U 20120713
- PNFP - ES1077394Y Y 20121010
- PR - ES20120000114U 20120210
- AP - ES20120000114U 20120210
- DT - I
- PA - (U Y)
ELECTROSON TELECOMUNICACION SA [ES]
- TI - (U)
Universal access box for optical **splitters** (Machine-translation by Google Translate, not legally binding)
- AB - (U)
Universal access box for potato optical dividers, which is constituted from an enclosure formed by a cover (1) and a base (2), equipped with cable entries (4), clip-type closures (3), and gaskets of **sealing**, and of the type that has fastening means for splice trays, is characterized in that inside the enclosure and coupled in its base (2), are housed: a main folding support (9) for fixing the trays of splice (16) that, in addition, has a **system** of channels for guiding tubes and a **system** of fiber optic routers; a tube storage piece (10); a second support for fixing trays for section change (11); a router (12) of outputs/inputs of splitter fibers; and a third support for fixing dividers trays (13). (Machine-translation by Google Translate, not legally binding)

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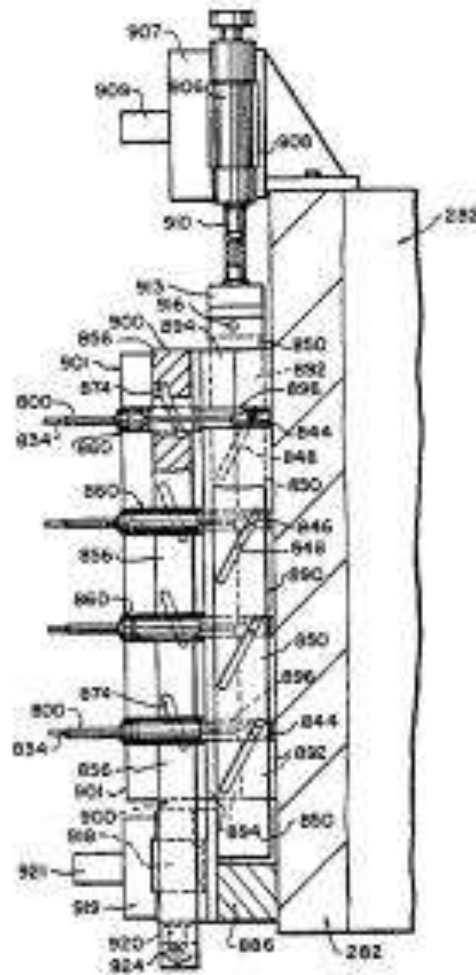
- PN - [US2003090806](#) A1 20030515
- PNFP - US6552856 B1 20030422
- PR - US20010967436 20010927
- AP - US20010967436 20010927
- DT - **
- CT - || STSE (B1)
[US3920983](#) A 00000000 [];
[US5798859](#) A 00000000 [];
[US5828689](#) A 00000000 [];
[US6134253](#) A 00000000 [];
[US6276806](#) B1 00000000 [];
[US2002163650](#) A1 00000000 []
- CCI - [H04B10/572](#)
- CCA - [H01S3/1303](#) ; [H01S3/2383](#)
- CI - H04B10/572 (EP)
- CA - H01S3/1303 (EP)
H01S3/2383 (EP)
- PA - (B1)
FIBERA INC [US]
- TI - (A1)
MULTI-CHANNEL WAVELENGTH LOCKER USING GASTUNING
(B1)
Multi-channel wavelength locker using gas tuning
- AB - (A1)
A wavelength locker (10) and **system** (70) for providing wavelength-locked multi-channels signals by using gas tuning. A number of radiation sources (72) provide beams of radiation at wavelengths separated by a predetermined spacing. One or

more wavelength lockers (10) produce equally-spaced spectral lines (4) which are tunable in comparison to a wavelength reference, which is preferably the ITU grid (2). The wavelength locker (10) includes one or more etalons (12) which includes a gas-tunable medium (19) having a variable optical index of refraction. The etalons (12) are tuned by varying the pressure or composition of the gas-tunable medium (19) until the spectral lines (4) of the etalon (12) align with the ITU grid (4). The gas properties are then fixed by at least temporarily **sealing** the etalon (12). The etalons (12) may either be transmissive etalons (31), or reflective etalons (29). In a multi-channel **system** (70), beam **splitters** (76) divert a portion of the beams of radiation (48) into the wavelength lockers (10). Detectors (82) then receive the spectral line output (4) of the wavelength lockers (10) and detects shifts in wavelength of the spectral line output (4) to generate control signals (90). The wavelength of each of the radiation sources (72) is then adjusted in response to the control signals (90). The output (92) of the detector (84) may also be normalized in order to isolate the variations which are attributable to shift in wavelength.

- (B1)

A method and **system** for providing wavelength-locked multi-channel signals with respect to a wavelength reference. Wavelengths of a plurality of radiation sources are introduced to at least one etalon having a gas medium. The etalon produces a plurality of equally spaced spectral lines and is tuned by varying its optical index of refraction, by varying the characteristics of its gas medium. The optical index of refraction is then fixed, by fixing the characteristics of its gas medium, and thus locking the plurality of spectral lines with respect to the wavelength reference. In particular, the etalons may be tuned by varying the pressure or composition of their gas-tunable mediums until the spectral lines of the etalon align with the ITU grid.

PN - [US4497621](#) A 19850205
 PR - US19830484561 19830413
 AP - US19830484561 19830413
 DT - *; Rep
 CT - || STSE (A)
 [US2865050](#) A 00000000 [];
 [US2924391](#) A 00000000 [];
 [US3447755](#) A 00000000 [];
 [US3561062](#) A 00000000 [];
 [US3571856](#) A 00000000 [];
 [US3933312](#) A 00000000 [];
 [US4070142](#) A 00000000 [];
 [US4095931](#) A 00000000 [];
 [US4150074](#) A 00000000 [];
 [US4173448](#) A 00000000 [];
 [US4212627](#) A 00000000 [];
 [US4378963](#) A 00000000 []
 CCI - [B29C48/185](#) ; [B29C49/22](#) ;
 [B65D1/28](#)
 CCA - [B29B2911/14053](#) ;
 [B29B2911/14066](#) ;
 [B29B2911/14093](#) ;
 [B29B2911/1412](#) ;
 [B29C2045/161](#) ;
 [B29C2045/1612](#) ;
 [B29C2045/2813](#) ;
 [B29C2045/2831](#) ; [B29C48/03](#)
 CI - B29C48/185 (EP)
 B29C49/22 (EP)
 B65D1/28 (EP)
 CA - B29B2911/14053 (EP)
 B29B2911/14066 (EP)
 B29B2911/14093 (EP)
 B29B2911/1412 (EP)
 B29C2045/161 (EP)
 B29C2045/1612 (EP)
 B29C2045/2813 (EP)
 B29C2045/2831 (EP)
 B29C48/03 (EP)
 PA - AMERICAN CAN CO [US]
 TI - Apparatus for simultaneously
 driving valve means through
 co-injection nozzles of a multi-
 cavity injection molding
 machine
 AB - Apparatus for unit cavity and
 multi-cavity, multi-layer
 injection molding and
 injection blow molding
 machines are provided, which,
 in preferred embodiments,
 include: Coinjection nozzle
 means, each for plural
 polymers, valve means for
 each nozzle, the valve means



being adapted to move
 through a nozzle central
 channel to clear the nozzle
 channel of melt, a feed-block
 for each nozzle, polymer
 melt **splitters**, drive means for
 each valve means, a free
 floating runner **system** and a
 force compensation **system** to
 provide an effective
 pressure **seal** between the
 nozzles and the cavity block.

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PN - [US6129960](#) A 20001010

PR - US19890397348 19890822; US19860909941 19860919; US19830484707
 19830413; US19960654569 19960529; US19940341700 19941118; US19910740749
 19910805; US19900563169 19900803; US19990268873 19990316; US19880283000
 19881202

AP - US19990268873 19990316

DT - *; Rep

CT - || STSE (A)
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[UST904007I](#) I4 00000000 [];
[UST922007I](#) I4 00000000 [];
[US2418856](#) A 00000000 [];
[US2470089](#) A 00000000 [];
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[US2710987](#) A 00000000 [];
[US2770011](#) A 00000000 [];
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[US2865050](#) A 00000000 [];
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[US3103036](#) A 00000000 [];
[US3127274](#) A 00000000 [];
[US3173175](#) A 00000000 [];
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[US3255020](#) A 00000000 [];
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[US3288903](#) A 00000000 [];
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[US3409710](#) A 00000000 [];
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[US3429717](#) A 00000000 [];
[US3436446](#) A 00000000 [];
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[US3493997](#) A 00000000 [];
[US3531553](#) A 00000000 [];
[US3533594](#) A 00000000 [];
[US3535742](#) A 00000000 [];
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[US3670874](#) A 00000000 [];
[US3690797](#) A 00000000 [];
[US3694529](#) A 00000000 [];
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[US3779680](#) A 00000000 [];
[US3785116](#) A 00000000 [];
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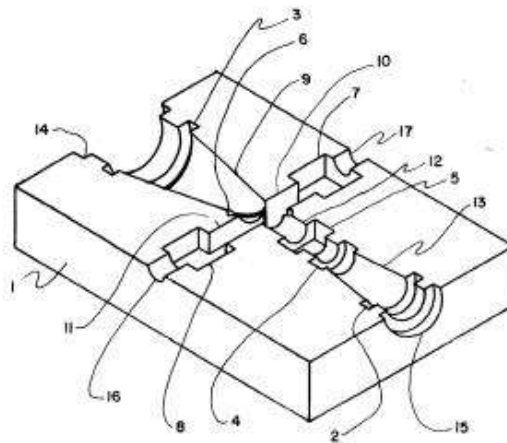
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CCI	- B29C45/1607 ; B29C45/1643 ; B29C48/185 ; B29C49/22 ; B65D1/28 ; B65D81/266
CCA	- B29B2911/14053 ; B29B2911/14066 ; B29B2911/1408 ; B29B2911/14093 ; B29B2911/1412 ; B29B2911/14126 ; B29C2045/161 ; B29C2045/1612 ; B29C48/07 ; B29C48/09 ; B29K2105/26 ; B29L2031/716 ; Y10T428/1352 ; Y10T428/1379 ; Y10T428/1383 ; Y10T428/139 ; Y10T428/1393
CI	- B29C45/1607 (EP) - B29C45/1643 (EP) - B29C48/185 (EP) - B29C49/22 (EP) - B65D1/28 (EP) - B65D81/266 (EP)
CA	- B29B2911/14053 (EP) - B29B2911/14066 (EP) - B29B2911/1408 (EP) - B29B2911/14093 (EP) - B29B2911/1412 (EP) - B29B2911/14126 (EP) - B29C2045/161 (EP) - B29C2045/1612 (EP) - B29C48/07 (EP) - B29C48/09 (EP) - B29K2105/26 (EP) - B29L2031/716 (EP) - Y10T428/1352 (EP, US) - Y10T428/1379 (EP, US) - Y10T428/1383 (EP, US) - Y10T428/139 (EP, US) - Y10T428/1393 (EP, US)
PA	- PECHINEY PLASTIC PACKAGING INC [US]
TI	- Methods and apparatus for injection molding and injection blow molding multi-layer plastic and the articles made thereby
AB	- Apparatus for unit cavity and multi-cavity, multi-layer injection molding and injection blow molding machines are provided, which in preferred embodiments, include: co-injection nozzle means including multi-polymer co-injection nozzles comprising an assembly of shells, and having fixed, tapered passageways communicating with annular orifices close to the nozzle gate and to each other, and polymer flow balancing and directing means in the passageways in the form of

concentric and eccentric chokes; valve means for each co-injection nozzle, operative in the nozzle central channel to and adapted to be moved to different positions to block and unblock the nozzle orifices, and, in each nozzle to controls the initiation, flow and termination of flow of a plurality of polymer flow streams, comprised of an elongated sleeve having an axial central passageway and a port in its side wall and axially-reciprocable within the nozzle central channel, and, either a solid pin within and fixed relative to the sleeve, or, more preferably, an elongated pin axially-reciprocable within the sleeve central passageway, the sleeves and pins each mounted in close tolerance slip fits to prevent any significant accumulation of polymer melt material therebetween; valve means adapted to move through a nozzle central channel to assist in knitting the internal layer with itself in the central channel; valve means adapted to move through a nozzle central channel with an accumulation of polymer melt material at its forward end, and to assist in encapsulating the knit internal layer in what will be the sprue or bottom area of the container to be formed; valve means adapted to be moved through a nozzle central channel to substantially clear the central channel of polymer melt material; a feed block for each co-injection nozzle, for receiving a plurality of separate polymer melt material flow streams in an axially-aligned, spaced pattern in the periphery of the device, and for redirecting their travel paths to flow axially in a radially-spaced pattern out of the forward end of the device into the rear of a co-injection nozzle; polymer melt material flow stream splitter devices, including runner extensions, **T-splitters** and **Y-splitters**, for splitting an income flow stream channel for each melt material, into first and second branched flow channels of equal length which communicate with sets of first and second branched exit ports, each set in an axially-aligned, spaced pattern in different peripheral surface portions of the device; drive means in communication with separate valve means for each nozzle, for simultaneously and identically driving the valve means in each co-injection nozzle, to there simultaneously and identically initiate, regulate and terminate the flow of the respective polymer melt material streams, the drive means including a sleeve shuttle for each sleeve, a pin shuttle for each pin, each connected to common moving means including a sleeve cam bar and a pin cam bar; control means for moving the common moving means in a desired mode to provide the identical, simultaneous movements of the valve means and identical, simultaneous flow control of corresponding materials in each nozzle; a free floating runner **system** wherein runner means, including a runner block and its runner extension, are mounted on their axial center lines on support means, with a gap between the runner structures and surrounding structures to allow the runner structures to freely thermally expand radially and axially; a force compensation **system** comprised of means, preferably hydraulic, for providing a forward force to the runner structures to offset any rearward force from axial floatation of the runner means and to provide an on-line, effective pressure contact **seal** between the nozzle sprues and injection cavity sprues; a runner **system** providing a substantially equal flow path and experience to corresponding polymer melt material flow streams fed to correspondin

PN - [US4460424](#) A 19840717
 PR - US19810258167 19810427
 AP - US19810258167 19810427
 DT - *; Rep
 CT - || STSE (A)
[US2919626](#) A 00000000 [];
[US3382758](#) A 00000000 [];
[US3503688](#) A 00000000 [];
[US3749479](#) A 00000000 [];
[US3888568](#) A 00000000 [];
[US4134651](#) A 00000000 []
 CCI - [G02B7/00](#) ; [G02F1/0305](#)
 CCA - [Y10S359/90](#)
 CI - G02B7/00 (EP)
 - G02F1/0305 (EP)
 CA - Y10S359/90 (EP)
 PA - US ARMY [US]
 TI - Method of integrated
 optical **system**
 AB - A substrate of a
 dimensionally-stable material
 is formed with precision made
 cavities therein for various
 linear or nonlinear optical
 elements or electro-optical
 elements such as lenses,
 beam **splitters**, reflectors,
 detectors, polarizers, Kerr
 cells, Pockel cells, etc. Various
 openings are also made in the
 substrate for function as
 optical paths or waveguides.
 The elements are then bonded
 into their respective cavities
 by glueing or soldering; the
 optical **system** thus formed
 is **sealed** in an air-tight
 housing.



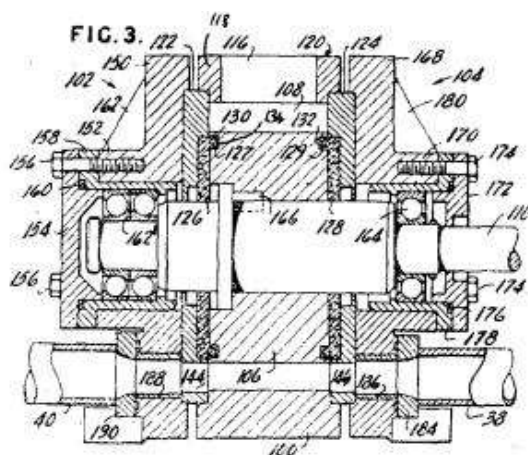
10/14 © EPODOC / EPO

PN - [RU2178610](#) C1 20020120
 PR - RU20000116450 20000627
 AP - RU20000116450 20000627
 DT - I
 PA - OOO UNPP LAZER
 TI - DEVICE FOR CONVERTING INCOHERENT RADIATION INTO SPATIALLY COHERENT
 RADIATION
 AB - optics, instrumentation engineering, medicine. SUBSTANCE: device designed for light
 energy conversion has incoherent radiation source with focusing **system** and
 cascaded fiber **splitters** with single optical fiber at output. Cone-shaped fibers are
 tightly abutting against each other in each splitter and their output ends are
 interconnected. **Splitters** are connected in parallel within each cascade and cascades
 are connected in series so that number of fibers at input of each cascade $N_n = mn$,
 where N is number of fibers at input of each cascade; n is cascade number ($n \cong 5$); m

is number of fibers in splitter ($m \approx 6$). Device may be mounted in **sealed** case and provided with heat sink. EFFECT: enhanced radiation power. 4 cl, 3 dwg

11/14 © EPODOC / EPO

- PN - [GB1067191](#) A 19670503
- PR - US19620231079
19621017; US19630270628
19630404; US19630281918
19630521
- AP - GB19630040035 19631010
- DT - *, Rep
- CCI - [C21B5/003](#) ; [F23K3/00](#)
- CCA - [F23K2203/006](#) ;
[F23K2203/008](#)
- CI - C21B5/003 (EP)
F23K3/00 (EP)
- CA - F23K2203/006 (EP)
F23K2203/008 (EP)
- PA - KOPPERS CO INC
- TI - Improvements in or relating to
injection of particulate
material into furnaces
- AB - 1,067,191. Pneumatic
conveyers. KOPPERS CO. Inc.
Oct. 10, 1963 [Oct. 17, 1962;
Nov. 5, 1962; April 4, 1963;
May 21, 1963 (2)], No.
40035/63. Heading B8A. In
apparatus for feeding
particulate material such as
pulverized fuel to the multiple
tuyeres (45), Fig. 1 (not
shown), of a furnace (46) the
material collected in an open
bin (30) passes through
multiple hoppers outlets (32)
to a series of rotary feeders
(34) from which the particles
are pneumatically conveyed at
superatmospheric pressure to
flow **splitters** (42) each of
which divides the flow equally
into two parts leading to
separate tuyeres (45) and
described in Specification
1,067,192. The multiple rotary
feeders 34 each comprise a
housing 100, Fig. 3, containing
a toothed rotor 108 set
between wear plates 122, 124,
held by bolted end members
102, 104. Discshaped **seals**
126, at each end have flanges
127, carrying U-section **seal**
rings 130 in annular recesses
132 of the rotor 106. The



material is fed downwardly through an inlet 116 at the top of the housing 100 and is removed in the axial direction at the lower part of the housing through an outlet 144 in the wear plate 122, which is arranged oppositely to an air inlet 146 coupled to one of the manifold pipes 38 from the supply line (36) (Fig. 1) of the pneumatic conveyer **system**. Scavenging of the rotor disc 108 is provided by radially directed outlets (64), (66) (Fig. 4, not shown), in the rotor housing 100. The outlet (64) is provided with a branch inlet (70) for heated scavenging air and the outlet (66) is coupled to a vacuum source (80) and to atmosphere through a branch (142) to provide for additional scavenging at low pressure to assist subsequent entry of material from the inlet 116. In a modification an L-section **seal** (434) (Fig. 10 (not shown), is clamped as at (428) to rotor and is pressed radially outwardly into contact with the wear plate (322) by a split ring (356). A tuyere (545), Fig. 18 (not shown), is described in Specification 1,067,193.

12/14 © EPODOC / EPO

PN - [DE3103034](#) A1 19821028
 PNFP - DE3103034 C2 19830113
 PR - DE19813103034 19810130; DE19792950533 19791215
 AP - DE19813103034 19810130
 DT - *, Rep
 CT - || STSE (A1)
 [US1853684](#) A 19320412 [] (JACOBUS DAVID S);
 [US1801226](#) A 00000000 []
 CCI - [F28D7/106](#) ; [F28D21/0008](#) ; [F28F21/04](#)
 CI - F28D7/106 (EP)
 F28D21/0008 (EP)
 F28F21/04 (EP)
 PA - (A1)
 KRUPP STAHL AG [DE]
 TI - (A1)
 Recuperator
 AB - (A1)
 The invention relates to a recuperator, which consists of a plurality of hot gas tubes,

which are arranged in parallel and inserted on both sides in face plates, penetrating holes therein, and of a positive guiding **system** for the gases which flow around the hot gas tubes and are to be preheated. The positive guiding **system** is provided by enclosing tubes which surround the hot gas tubes at a distance fixed by spacers and which open at their ends into manifold channels for feeding or discharging the gases. In this arrangement, the space about the hot gas tubes between the face plates is to be subdivided by **splitters**, surrounded by an enclosing plate, and **sealed** at the top by inlet and outlet stubs.

13/14 © EPODOC / EPO

- PN - [CN2131054Y](#) Y 19930428
- PR - CN19912000563U 19910116
- AP - CN19912000563U 19910116
- DT - I
- CCA - [Y02A50/20](#)
- CA - Y02A50/20 (EP)
- PA - HUOJU XU [CN]
- TI - Sterilisation-type air-conditioner
- AB - The utility model relates to a sterilization-type air-conditioner, mainly solving the problems that bacteria accumulation and dust deposition in the interior of the air conditioner, which is not conformed to sanitary requirements and results from an unreasonable structural design of a present air conditioner. The sterilization-type air-conditioner mainly comprises an outer shell, a new return mixing filter section, a noise elimination section, a surface-cooled heating zone, a blower section, a noise elimination section, a humidifying air outlet section, etc. The utility model is characterized in that the outer shell is provided with an overhaul door. The air-conditioner is provided with an ultra-violet sterilizing lamp. The noise elimination section is provided with a vertical and an anti-plane sound **splitters**. The surface-cooled heating zone is provided with a steam **seal** pipe. The air-conditioner which is mainly used in a sanitation **system** has the advantages of corrosion prevention, cleanness, easy overhaul, etc.

14/14 © EPODOC / EPO

- PN - [CA1223707](#) A 19870707
- PR - US19830484561 19830413
- AP - CA19840451818 19840412
- DT - I
- CCI - [B29C48/185](#) ; [B29C49/22](#) ; [B65D1/28](#)
- CCA - [B29B2911/14053](#) ; [B29B2911/14066](#) ; [B29B2911/14093](#) ; [B29B2911/1412](#) ; [B29C2045/161](#) ; [B29C2045/1612](#) ; [B29C2045/2813](#) ; [B29C2045/2831](#) ; [B29C48/03](#)
- CI - B29C48/185 (EP)
- B29C49/22 (EP)
- B65D1/28 (EP)
- CA - B29B2911/14053 (EP)
- B29B2911/14066 (EP)
- B29B2911/14093 (EP)
- B29B2911/1412 (EP)
- B29C2045/161 (EP)
- B29C2045/1612 (EP)
- B29C2045/2813 (EP)
- B29C2045/2831 (EP)
- B29C48/03 (EP)
- PA - AMERICAN CAN CO

- TI - APPARATUS FOR SIMULTANEOUSLY DRIVING VALVE MEANS THROUGH CO-INJECTION NOZZLES OF A MULTI-CAVITY INJECTION MOULDING MACHINE
- AB - Apparatus for unit cavity and multi-cavity, multilayer injection molding and injection blow molding machines are provided, which, in preferred embodiments, include coinjection nozzle means, each for plural polymers, valve means for each nozzle, the valve means being adapted to move through a nozzle central channel to clear the nozzle channel of melt, a feed-block for each nozzle, polymer melt **splitters**, drive means for each valve means, a free floating runner **system** and a force compensation **system** to provide an effective pressure **seal** between the nozzles and the cavity block.

[SS 8] system and splitter+ and /IC (G02B)

Results in EPODOC 5.360

[SS 9] 8 and (fiber 1d optic)

Results in EPODOC 140

[SS 10] ..li 1-100



- 1/140** © EPODOC / EPO
- PN - [WO2020204857](#) A1 20201008
- PR - TR20190004870 20190401
- AP - WO2020TR50176 20200305
- DT - *, Rep
- CT - |TR| ISR (A1)
[US2013194772](#) A1 20130801 [X] (ROJO HECTOR [US], et al)
 [X] 1-7
 * Abstract, Paragraph; 9, 64, 66, 72, 73 *;
[EP0891067](#) A2 19990113 [X] (ALSTHOM CGE ALCATEL [FR])
 [X] 1-7
 * Abstract; Page 19, Line 32, 53; Fig 7B, 7D *;
[US6515224](#) B1 20030204 [X] (PEDRO JOHN M [US])
 [X] 1-7
 * Abstract; Page 1, line 9-12; Page 5, Line 41-52 *
- PA - SAMM TEKNOLOJII ILETISIM SANAYI VE TICARET ANONIM Sirketi [TR]
- TI - CONVERSION MODULE OF COPPER FIELD CABINS TO **FIBER OPTIC SYSTEM**
- AB - The invention relates to the conversion module of copper field cabinets into the **fiber optic system**, and wherein it consists of; module casing (1) located in the telecom cabinet (T), the module base plate (2) associated with the module case (1), **splitter** modules (3) fixed on the upper part of the module base plate (2), connector panel (4) positioned on the module base plate (2), with the **splitter** modules (3) at the bottom, the guiding part (5) positioned on the module base plate (2) with the connector panel (4) at the bottom and additional cassettes (6) positioned on the module base plate (2) with the guiding part (5) at the bottom.

2/140 © EPODOC / EPO

- PN - [WO2020189320](#) A1 20200924
- PR - JP20190052094 20190320
- AP - WO2020JP09558 20200306
- DT - *, Rep
- CT - |JP| ISR (A1)
[JP2013207716](#) A 20131007 [A] (OKI ELECTRIC IND CO LTD)
 [A] 1-5

* , entire text, all drawings *;
[JP2001268055](#) A 20010928 [A] (NIPPON TELEGRAPH & TELEPHONE)
[A] 1-5
* , entire text, all drawings *;
[JP2008015142](#) A 20080124 [A] (NIPPON TELEGRAPH & TELEPHONE)
[A] 1-5
* , entire text, all drawings *;
[XP033607884](#) A[PA]

CTNP - [JP] ISR (A1)
[PA] - Kawakita Atsuko; Hara Kazutaka; Kimura Yasutaka; Horikawa Kenji; Furukawa Hiroyuki; Suzuki Yasuhiro; Ikeda Satoshi., "Design for long-reach coexisting PON in consideration of area characteristics with wavelength selective asymmetrical splitters", 2019 24th OptoElectronics and Communications Conference (OECC) and 2019 International Conference on Photonics in Switching and Computing (PSC), (20190711), pages 1 - 3, XP033607884
[PA] 1-5
* entire text, all drawings *

CI - G02B6/287 (EP)
- H04B10/272 (EP)

PA - NIPPON TELEGRAPH & TELEPHONE [JP]

TI - OPTICAL COMMUNICATION **SYSTEM** AND OPTICAL COMMUNICATION METHOD

AB - The purpose of the preset invention is to provide an optical communication **system** and an optical communication method that make it possible to allocate wavelengths by service and thereby prevent degradation of signal quality caused by linear cross talk when services are provided by area and that also make it possible to prevent increases in size and cost. This optical communication **system** is characterized by comprising an optical **splitter** 300 that connects N first ports (N being an integer that is at least 2) and M second ports (M being an integer that is at least two) by means of a combination of 2x2 **fiber optic splitters**. The optical communication **system** is also characterized in that the wavelengths of optical signals that different groups of optical receivers 106 are made to receive are restricted using the correlation between the melt-drawn length of at least one 2x2 **fiber optic splitter** that is directly connected to the first ports and the wavelength output characteristics of the second ports of the optical **splitter** 300.

3/140 © EPODOC / EPO

PN - [US2020285015](#) A1 20200910

PR - US202016822337 20200318; US201916259594 20190128; US201715840662 20171213; US201514876140 20151006; US201462060289P 20141006

AP - US202016822337 20200318

DT - **

CCI - [G02B6/4471](#) ; [G02B6/46](#)

CI - G02B6/4471 (EP, US)
- G02B6/46 (EP, US)

PA - COMMScope Technologies LLC [US]

TI - FACILITATING INSTALLATION OF **FIBER OPTIC NETWORKS**

AB - An optical **system** architecture includes indexed optical lines that are indexed between first and second multi-fiber connectors; a first of the optical line having a first end terminated at the first multi-fiber connector; and a second optical line having a first end terminated at the second multi-fiber. An input of an optical **splitter** is optically coupled to second ends of the first and second optical lines. The optical **splitter** splits optical signals carried over the first and second optical lines onto output lines so that each output line carries signals split from the first optical line and signals split from the second optical line.

4/140 © EPODOC / EPO

PN - [US2020271882](#) A1 20200827

PR - US201816496312 20180320; US201762473905P 20170320; WO2018EP57074 20180320

AP - US201816496312 20180320
DT - **
CCI - [G02B6/4452](#)
CI - G02B6/4446 (US)
- G02B6/4452 (EP, US)
- G02B6/4454 (US)
PA - COMMSCOPE CONNECTIVITY BELGIUM BVBA [BE]
TI - TELECOMMUNICATIONS **SYSTEM** AND METHODS
AB - A cabinet having a framework for mounting telecommunications equipment includes a framework and telecommunications equipment mounted to the framework. The equipment may include **splitter** modules. Spools are mounted within the cabinet to manage overlength slack in **fiber optic** cables within the cabinet. A parking area is mounted within the cabinet and defines a plurality of cable connector storage locations for receiving at least some of the **fiber optic** cables. The plurality of spools are positioned intermediate the telecommunications equipment and the patch panel. A splice area is mounted within the cabinet or external to the cabinet. The splice area receives **fiber optic** cables for splicing to additional cables.

5/140 © EPODOC / EPO

PN - [US2020183116](#) A1 20200611
PR - US201916710190 20191211; US201816042511 20180723; US201514653888 20150619; WO2013EP77292 20131219; US201261739461P 20121219; US201361840832P 20130628; US201361883320P 20130927; US201361908054P 20131123
AP - US201916710190 20191211
DT - **
CCA - [G02B6/4455](#) ; [G02B6/4457](#) ; [G02B6/4466](#)
CI - G02B6/44 (RU)
- G02B6/4452 (RU, US)
- G02B6/4454 (US)
CA - G02B6/4455 (EP)
- G02B6/4457 (EP)
- G02B6/4466 (EP)
PA - COMMSCOPE CONNECTIVITY BELGIUM BVBA [BE]
TI - DISTRIBUTION DEVICE WITH INCREMENTALLY ADDED **SPLITTERS**
AB - A fiber distribution **system** (10) includes a fiber distribution hub (20, 300); at least one fiber distribution terminal (30, 100); and a cable (40) wrapped around a spool (110) of the fiber distribution terminal (30, 100). The fiber distribution terminal (30, 100) includes a spool (110) and a management tray (120) that rotate together. A second connectorized end (40b) of the cable (40) is held at a **fiber optic** adapter (125) on the tray (120). After dispensing the first connectorized end (40a) to the hub (20), an optical **splitter** (70, 130, 140) can be mounted to the tray (120). The **splitter** (26, 70, 130, 140, 306) has output adapters at which patch cords (50) can be inserted to connect subscribers to the **system**. The fiber distribution hub can use the same format of **splitters** (26, 70, 130, 140, 306). Other distributed **splitter** systems are provided with splicing and/or adding of **splitters** as needed.

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PN - [US2020052459](#) A1 20200213

PR - US201916537274
20190809; US201862717087P 20180810

AP - US201916537274 20190809

DT - *, Rep

CCI - [F21S9/02](#) ; [G02B6/0008](#)

CCA - [F21Y2113/13](#) ; [F21Y2115/30](#) ;
[H01S5/02284](#) ; [H01S5/4093](#)

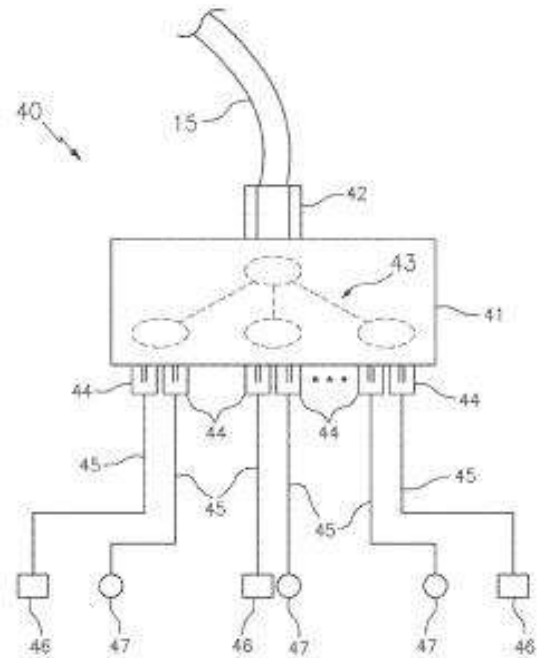
CI - F21S9/02 (EP)
- G02B6/0008 (EP)
- G02B6/12019 (US)
- H01S5/0261 (US)
- H01S5/0265 (US)

CA - F21V2200/10 (US)
- F21V2200/13 (US)
- F21Y2113/13 (EP)
- F21Y2115/30 (EP)
- G02B2006/1215 (US)
- H01S5/02284 (EP)
- H01S5/4093 (EP)

PA - DANIELS DEREK [US]

TI - MIXED AND DISTRIBUTED LASER
ILLUMINATION **SYSTEM**

AB - A mixed and distributed laser illumination **system** includes a source unit having an internally located power supply, a laser driver and a light generator. The light generator includes a plurality of laser diodes that are communicatively linked with the laser driver. The output of each laser diode is coupled to an individual cable that terminates at a fiber combiner. A transmission cable is in communication with the fiber combiner and transmits the light from the source unit to a fiber **splitter**. The **fiber optic splitter** distributes the received light to a plurality of output cables each having an optical diffuser or a conversion element for converting infrared to ultraviolet light.



7/140 © EPODOC / EPO

PN - [US2020041743](#) A1 20200206

PR - US201716339986 20171003; US201662404523P 20161005; US201662432103P
20161209; WO2017EP75090 20171003

AP - US201716339986 20171003

DT - **

CCI - [G02B6/4452](#)

CCA - [G02B6/3897](#)

CI - G02B6/3897 (US)
- G02B6/4452 (EP, US)

- G02B6/4455 (US)
- CA - G02B6/3897 (EP)
- PA - COMMSCOPE CONNECTIVITY BELGIUM BVBA [BE]
- TI - TELECOMMUNICATIONS **SYSTEM** AND METHODS
- AB - A cabinet having a framework for mounting telecommunications equipment includes a framework and telecommunications equipment mounted to the framework. The equipment may include **splitter** modules. Spools are mounted within the cabinet to manage overlength slack in **fiber optic** cables within the cabinet. A patch panel is mounted within the cabinet and define a plurality of cable termination locations for receiving at least some of the **fiber optic** cables. The patch panel is mounted on a pivotable frame between a storage position and an access position. The plurality of spools are positioned intermediate the telecommunications equipment and the patch panel. A splice area is mounted within the cabinet and is accessible when the pivotable frame is in the access position. The splice area receives **fiber optic** cables from the patch panel for splicing to additional cables.

8/140 © EPODOC / EPO

- PN - [US2019369346](#) A1 20191205
- PNFP - US10732369 B2 20200804
- PR - US201916420717 20190523; US201715735781 20171212; WO2016US37025 20160610; US201562175047P 20150612; US201562196119P 20150723
- AP - US201916420717 20190523
- DT - **
- CCI - [G02B6/445](#) ; [G02B6/4455](#)
- CI - G02B6/3897 (US)
- G02B6/4446 (US)
- G02B6/445 (EP, US)
- G02B6/4453 (US)
- G02B6/4455 (EP, US)
- G02B6/4478 (US)
- H04Q11/0003 (US)
- CA - G02B6/4444 (US)
- H04Q2201/804 (US)
- PA - (A1 B2)
COMMSCOPE TECHNOLOGIES LLC [US]
- TI - (A1)
TELECOMMUNICATIONS ENCLOSURE
- (B2)
Telecommunications enclosure
- AB - (A1 B2)
This disclosure is related to a **fiber optic** distribution **system** including a telecommunications enclosure. In one aspect, the telecommunications enclosure can include a main body and a cover that together define an interior cavity. A first tray and a second tray can be mounted within the interior cavity. The first tray can be configured to hold a **fiber optic splitter** and to include cable management features. The second tray can be configured with a termination feature for connecting cables extending from the **splitter** to cables that can be distributed to individual locations remote from the enclosure, such as individual dwelling units.

9/140 © EPODOC / EPO

- PN - [US2019212227](#) A1 20190711
- PNFP - US10627310 B2 20200421
- PR - WO2016IB55913 20161004
- AP - US201615575726 20161004
- DT - **

CT	- STSE (A1) US2015092043 A1 20150402 [X] (BARIBAUT ROBERT [CA]) [X] 7 * claim 7 Figure 1 paragraph 74 and 75 Figure 5 Figure 5 paragraph 75 paragraph 75 abstract *; US2018088113 A1 20180329 [A] (BOSS PAMELA A [US], et al); US9964710 B2 20180508 [A] (ROSSON JOEL CHRISTOPHER [US]); US2018067327 A1 20180308 [A] (PENG ZHIYONG [US], et al); US10416081 B2 20190917 [A] (SUMPFF BERND [DE], et al); US2008174771 A1 20080724 [A] (YAN ZHENG [US], et al); US2009103792 A1 20090423 [A] (RAHN J RICHARD [US], et al); US2018269967 A1 20180920 [A] (SCHELL J DAVID [US], et al); US10374700 B2 20190806 [A] (SCHELL J DAVID [US], et al); US10185096 B2 20190122 [A] (CLARKE STERLING MICHAEL [US], et al); US2006078264 A1 20060413 [A] (LAUZIER LOUIS [US], et al); US2014200164 A1 20140717 [A] (MAKAREWICZ JR ANTHONY J [US], et al); US9841567 B1 20171212 [A] (ZHOU GE [US], et al); US2016170151 A1 20160616 [A] (BARIBAUT ROBERT [CA]) - STSE (B2) US9841567 B1 20171212 [] (ZHOU GE [US], et al); US9964710 B2 20180508 [] (ROSSON JOEL CHRISTOPHER [US]); US10185096 B2 20190122 [] (CLARKE STERLING MICHAEL [US], et al); US10374700 B2 20190806 [] (SCHELL J DAVID [US], et al); US10416081 B2 20190917 [] (SUMPFF BERND [DE], et al); US2006078264 A1 20060413 [] (LAUZIER LOUIS [US], et al); US2008174771 A1 20080724 [] (YAN ZHENG [US], et al); US2009103792 A1 20090423 [] (RAHN J RICHARD [US], et al); US2014200164 A1 20140717 [] (MAKAREWICZ JR ANTHONY J [US], et al); US2015092043 A1 20150402 [] (BARIBAUT ROBERT [CA]); US2016170151 A1 20160616 [] (BARIBAUT ROBERT [CA]); US2018067327 A1 20180308 [] (PENG ZHIYONG [US], et al); US2018088113 A1 20180329 [] (BOSS PAMELA A [US], et al); US2018269967 A1 20180920 [] (SCHELL J DAVID [US], et al)
CCI	- G01M11/31
CCA	- G02B6/385
CI	- G01M11/31 (EP, US) - G01M11/33 (US) - G02B6/385 (US)
CA	- G02B6/385 (EP)
PA	- (A1) LIFODAS UAB [LT] - (B2) LIFODAS UAB [LT]; LIFODAS [LT]
TI	- (A1) Imaging System for Multi-Fiber Connector Inspection - (B2) Imaging system for multi-fiber connector inspection
AB	- (A1 B2) A digital fiber optic connector imaging system that can automatically capture two or more images of the endface of a multifiber connector, wherein the captured images as a group have sufficient resolution and a sufficient FOV to be used to perform a manual or automatic pass-fail analysis of the endface of every fiber terminated by the connector under inspection. In one or more embodiments, the imaging system comprises an illumination source that can operate at two or more wavelengths, one wavelength at a time, and a FOV-shifting component that includes one or more, fixed dichroic mirrors and one additional dichroic or broadband mirror. In other embodiments, the imaging system comprises a single-wavelength illumination source, an image beam splitter, and two or more image sensors located on two image planes.

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PN - [US2019154941](#) A1 20190523

PNFP - US10598887 B2 20200324

PR - US201916259594 20190128; US201715840662 20171213; US201514876140 20151006; US201462060289P 20141006

AP - US201916259594 20190128

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CT - || STSE (B2)
[US5321541](#) A 19940614 [] (COHEN LEONARD G [US]);
[US9348096](#) B2 20160524 [] (KMIT PAUL [US], et al);
[US9851525](#) B2 20171226 [] (LOEFFELHOLZ TODD [US], et al);
[US2010092129](#) A1 20100415 [] (CONNER MARK E [US]);
[US2015378112](#) A1 20151231 [] (MARCOUILLER THOMAS [US], et al);
[FR2914753](#) A1 20081010 [] (SCHNEIDER ELECTRIC IND SAS [FR])

CCI - [G02B6/4471](#) ; [G02B6/46](#)

CI - G02B6/4471 (EP, US)
- G02B6/46 (EP, US)

PA - (A1)
COMMScope TECHNOLOGIES LLC [US]
- (B2)
COMMScope TECHNOLOGIES LLC [US]; COMMScope TECHNOLOGIES LLC [US]

TI - (A1)
FACILITATING INSTALLATION OF **FIBER OPTIC** NETWORKS
- (B2)
Facilitating installation of **fiber optic** networks

AB - (A1)
An optical **system** architecture includes indexed optical lines that are indexed between first and second multi-fiber connectors; a first of the optical line having a first end terminated at the first multi-fiber connector; and a second optical line having a first end terminated at the second multi-fiber. An input of an optical **splitter** is optically coupled to second ends of the first and second optical lines. The optical **splitter** splits optical signals carried over the first and second optical lines onto output lines so that each output line carries signals split from the first optical line and signals split from the second optical line.
- (B2)
A cable arrangement includes indexed optical lines that are indexed between first and second multi-fiber connectors; a first of the optical line having a first end terminated at the first multi-fiber connector; and a second optical line having a first end terminated at the second multi-fiber. An input of an optical **splitter** is optically coupled to second ends of the first and second optical lines. The optical **splitter** splits optical signals carried over the first and second optical lines onto output lines so that each output line carries signals split from the first optical line and signals split from the second optical line.

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PN - [US2019103916](#) A1 20190404

PNFP - US10476596 B2 20191112

PR - US201816025270 20180702; US201514676212 20150401; US201461975414P 20140404

AP - US201816025270 20180702

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CT - || STSE (A1)
[US5886801](#) A 19990323 [X] (VAN DEVENTER MATTIJS OSKAR [NL])
[X] 1
* Fig. 5 | Fig. 5 Col. 6 line 50 Col. 7 line 4 Col. 2 line 20-30 Col. 4 lines 39-42 | Col. 6 line 50 Col. 7 line 4 | Fig. 5 Col. 6 line 50 Col. 7 line 4 *

	- STSE (B2) US5886801 A 19990323 [] (VAN DEVENTER MATTIJS OSKAR [NL]); US10014942 B2 20180703 [] (COFFEY JOSEPH C [US], et al)
CCI	- G02B6/3897 ; G02B6/4246 ; G02B6/4292 ; H04B10/27
CCA	- G02B6/3825
CI	- G02B6/3897 (EP, US) - G02B6/4246 (EP, US) - G02B6/4292 (EP, US) - G02B6/43 (US) - H04B10/2504 (US) - H04B10/27 (EP, US)
CA	- G02B6/3825 (EP, US)
PA	- (A1 B2) COMMSCOPE TECHNOLOGIES LLC [US]
TI	- (A1) OPTICAL SPLITTER - (B2) Optical splitter
AB	- (A1 B2) A fiber optic tap system includes a first receiver module having an input port configured to receive an optical fiber. The first receiver module is operable to convert a received optical signal to an electrical signal. A first transmitter module is coupled to receive the electrical signal from the first receiver module and convert the received electrical signal to an optical signal. The first transmitter module has an output port for outputting the optical signal. A first tap module is coupled to receive the electrical signal from the first receiver module.

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PNFP	- US10545305 B2 20200128
PR	- US201816042511 20180723; US201514653888 20150619; WO2013EP77292 20131219; US201261739461P 20121219; US201361840832P 20130628; US201361883320P 20130927; US201361908054P 20131123
AP	- US201816042511 20180723
DT	- **
CT	- STSE (A1) US6061492 A 20000509 [Y] (STRAUSE KEVIN L [US], et al) [Y] 1 * Figs. 1, 3, 5, 6 3:16 7:20 Fig. 11 Fig. 2 3:40 3:59 4:48 claim 3 Figs. 7 and 8 Fig. 6 5:15 claim 4 Fig. 9 *; US8189983 B2 20120529 [Y] (BRUNET HERVE [FR], et al) [Y] 1 * claim 1 Figs. 1, 4, 5, 7 and 8 4:65 11:56 2:58 5:36 11:63 FIGS. 1, 7 FIG. 1 5:5 Fig. 5A 7:67 8:2 11:22 Figs. 7 and 8 Figs. 7 and 8 7:67 8:2 11:22 Abstract 5:49 Fig. 2 6:56 FIG. 4C 6:16 6:32 Figs. 45 and 46 Figs. 45 Figs. 1, 3, 5, 6 3:16 7:20 Fig. 11 Figs. 5, 7 11:22 claim 2 6:49 7:61 claim 3 claim 4 Fig. 9 claim 5 Fig. 7 claim 6 Figs. 2, 7 *; US2009103879 A1 20090423 [Y] (TANG MAO NIAN [CN], et al) [Y] 1 * Figs. 2A Abstract para. 0043 Fig. 9 para. 0048 Fig. 2A Figs. 13 and 22 para. 0069 and 0079 para. 0051 para. 0072 Fig. 24 para. 0075 para. 0080 para. 0088 Abstract claim 14 claim 3 Figs. 7 and 8 claim 4 Fig. 9 *; US8086084 B2 20111227 [A] (BRAN DE LEON OSCAR FERNANDO [US], et al); US7697812 B2 20100413 [A] (PARIKH RUTESH D [US], et al); US7751673 B2 20100706 [A] (ANDERSON STEVEN [US], et al); US8019191 B2 20110913 [A] (LAURISCH STEFFEN [DE]);

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	- STSE (B2) US5740298 A 19980414 [] (MACKEN LUK JOZEF [BE], et al); US5768463 A 19980616 [] (FOSS RAYMOND CHARLES [GB], et al); US6061492 A 20000509 [] (STRAUSE KEVIN L [US], et al); US6424781 B1 20020723 [] (PUETZ CURTIS LEE [US], et al); US7509016 B2 20090324 [] (SMITH TREVOR D [US], et al); US7697812 B2 20100413 [] (PARIKH RUTESH D [US], et al); US7751673 B2 20100706 [] (ANDERSON STEVEN [US], et al); US8019191 B2 20110913 [] (LAURISCH STEFFEN [DE]); US8086084 B2 20111227 [] (BRAN DE LEON OSCAR FERNANDO [US], et al); US8189983 B2 20120529 [] (BRUNET HERVE [FR], et al); US8488934 B2 20130716 [] (ZHOU JUNSHENG [CN], et al); US2009067802 A1 20090312 [] (HOEHNE ELKE [DE], et al); US2009103879 A1 20090423 [] (TANG MAO NIAN [CN], et al); US2011026894 A1 20110203 [] (RUDENICK PAULA [US], et al)
CCA	- G02B6/4455 ; G02B6/4457 ; G02B6/4466
CI	- G02B6/44 (RU) - G02B6/4452 (RU, US) - G02B6/4454 (US)
CA	- G02B6/4455 (EP) - G02B6/4457 (EP) - G02B6/4466 (EP)
PA	- (A1 B2) COMMSCOPE CONNECTIVITY BELGIUM BVBA [BE]
TI	- (A1) DISTRIBUTION DEVICE WITH INCREMENTALLY ADDED SPLITTERS - (B2) Distribution device with incrementally added splitters
AB	- (A1 B2) A fiber distribution system (10) includes a fiber distribution hub (20, 300); at least one fiber distribution terminal (30, 100); and a cable (40) wrapped around a spool (110) of the fiber distribution terminal (30, 100). The fiber distribution terminal (30, 100) includes a spool (110) and a management tray (120) that rotate together. A second connectorized end (40b) of the cable (40) is held at a fiber optic adapter (125) on the tray (120). After dispensing the first connectorized end (40a) to the hub (20), an optical splitter (70, 130, 140) can be mounted to the tray (120). The splitter (26, 70, 130, 140, 306) has output adapters at which patch cords (50) can be inserted to connect subscribers to the system. The fiber distribution hub can use the same format of splitters (26, 70, 130, 140, 306). Other distributed splitter systems are provided with splicing and/or adding of splitters as needed.

PN - [US2019036599](#) A1 20190131

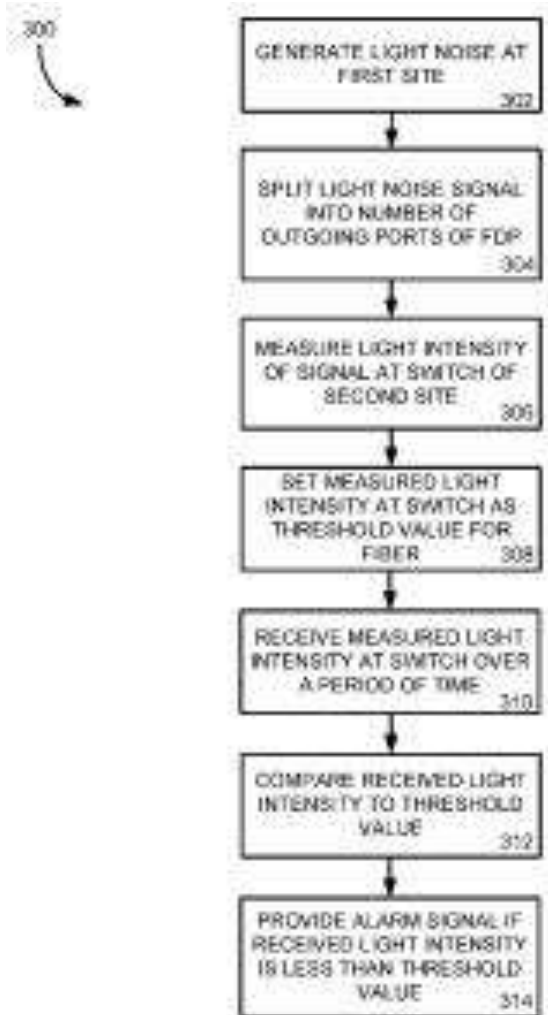
PNFP - US10771151 B2 20200908

PR - US201816050608
20180731; US201762539332P 20170731

AP - US201816050608 20180731

DT - *, Rep

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[US6292464](#) B1 20010918 [] (ELAHMADI SIRAJ NOUR [US], et al);
[US6317231](#) B1 20011113 [] (AL-SALAMEH DANIEL YOUSEF [US], et al);
[US6862380](#) B2 20050301 [] (CHAUDHURI SID [US], et al);
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[US6980737](#) B1 20051227 [] (ANSLOW PETER J [GB], et al);
[USH2190H](#) H 20070605 [] (CHEN JERRY [US]);
[US7254327](#) B1 20070807 [] (ZHONG SHAN [US], et al);
[US7711267](#) B2 20100504 [] (WELLBROCK GLENN [US], et al);
[US8180216](#) B2 20120515 [] (XIA TIEJUN J [US], et al);
[US9680569](#) B2 20170613 [] (ARCHAMBAULT JEAN-LUC [CA], et al);
[US9838113](#) B2 20171205 [] (EJIMA KOTA [JP], et al);
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[US2006147162](#) A1 20060706 [] (EKKIZOGLOY LUKE M [US], et al);
[US2006159460](#) A1 20060720 [] (STEWART JAMES W [US], et al);
[US2007280684](#) A1 20071206 [] (ONODA YOSHIHIRO [JP], et al);
[US2008232760](#) A1 20080925 [] (XIA



TIEJUN J [US]);
[US2008310858](#) A1 20081218 [] (LU
YIQUAN [CN], et al);
[US2009080881](#) A1 20090326 [
] (YOKOYAMA YOSHITAKA [JP]);
[US2010253936](#) A1 20101007 [] (XIA
TIEJUN J [US], et al);
[US2010266275](#) A1 20101021 [] (XIA
TIEJUN J [US], et al);
[US2010272431](#) A1 20101028 [] (CHEN
DAVID ZHI [US]);
[US2011142439](#) A1 20110616 [] (CHEN
DAVID ZHI [US], et al);
[US2011142440](#) A1 20110616 [] (XIA
TIEJUN J [US], et al);
[US2011222851](#) A1 20110915 [] (BERG
LOREN[CA]);
[US2011229128](#) A1 20110922 [
] (SAKAMOTO TAKESHI [JP], et al);
[US2012224170](#) A1 20120906 [
] (HISAMOTO TAKUYA [JP]);
[US2012321296](#) A1 20121220 [
] (WELLBROCK GLENN A [US], et al);
[US2013084064](#) A1 20130404 [
] (AKASAKA YUICHI [US]);
[US2013195462](#) A1 20130801 [] (GHIONI
LORENZO [IT], et al);
[US2013315579](#) A1 20131128 [] (XIA
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DANE [CA], et al);
[US2014328586](#) A1 20141106 [] (HE
GANG [CA], et al);
[US2014348464](#) A1 20141127 [
] (KAMURA YUJI [JP], et al);
[US2014355981](#) A1 20141204 [
] (MIYAZAKI SATOSHI [JP]);
[US2015155935](#) A1 20150604 [] (ODA
SHOICHIRO [JP], et al);
[US2015208146](#) A1 20150723 [
] (YOUNCE RICHARD Y [US], et al);
[US2015381272](#) A1 20151231 [
] (NAKAMURA KENTARO [JP], et al);
[US2016173202](#) A1 20160616 [] (KELLY
COLIN G [CA]);
[US2016315701](#) A1 20161027 [] (YUKI
MASAHIRO [JP], et al);
[US2017099099](#) A1 20170406 [
] (PAPAKOS KIMON [US], et al);
[US2017279528](#) A1 20170928 [] (HUANG
GUOXIU [JP], et al);
[US2017279593](#) A1 20170928 [] (MITTAL
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[US2018034544](#) A1 20180201 [] (SATO
YOSHIROU [JP]);
[US2018212707](#) A1 20180726 [
] (YAMAMOTO TETSUYA [JP]);
[US2018269964](#) A1 20180920 [] (MERTZ
PIERRE [US], et al);

	US2019052356 A1 20190214 [] (INOUE TAKANORI [JP]); US2019253139 A1 20190815 [] (SATOU YOSHIROU [JP])
CCI	- H04B10/077
CI	- G01M11/33 (US) - G02B6/4467 (US) - H04B10/077 (EP, US) - H04B10/0773 (US) - H04B10/0775 (US)
CA	- H04B10/07 (US) - H04J14/00 (US)
PA	- (A1 B2) LEVEL 3 COMMUNICATIONS LLC [US]
TI	- (A1) OUTSIDE PLANT FIBER HEALTH MONITORING SYSTEM - (B2) Outside plant fiber health monitoring system
AB	- (A1 B2) A system for monitoring health of a fiber optic cable in a telecommunications system includes an optical switch for receiving a plurality of light noise signals over the fiber optic cable and measuring the intensity of at least one of the plurality of light noise signals. The measured intensity data is transmitted to a monitoring system that then compares the measured intensity to a stored threshold intensity value. The system may also include a light signal generator for providing the plurality of light noise signals. The light signal generator may include a first amplifier for generating a light noise signal, a second amplifier for generating a corresponding amplified light noise signal, and an optical splitter for converting the amplified light noise signal into the plurality of light noise signals.
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PN	- US2018360546 A1 20181220
PNFP	- US10806524 B2 20201020
PR	- US201816110145 20180823; US201715486904 20170413; US201615141691 20160428; US201514714580 20150518; US201313892223 20130510; US20090415795 20090331
AP	- US201816110145 20180823
DT	- **
CT	- STSE (A1) US6600583 B1 20030729 [A] (FATEHI MOHAMMAD TAGHI [US], et al); US6160652 A 20001212 [A] (NIR DAVID [IL]);

	US2007265503 A1 20071115 [A] (SCHLESINGER RANDALL L [US], et al); US2011087112 A1 20110414 [A] (LEO GIOVANNI [CH], et al); US2008294144 A1 20081127 [A] (LEO GIOVANNI [CH], et al); US5541756 A 19960730 [A] (CHANG-HASNAIN CONSTANCE J [US], et al)
	- STSE (B2) US5541756 A 19960730 [] (CHANG-HASNAIN CONSTANCE J [US], et al); US6160652 A 20001212 [] (NIR DAVID [IL]); US6600583 B1 20030729 [] (FATEHI MOHAMMAD TAGHI [US], et al); US2007265503 A1 20071115 [] (SCHLESINGER RANDALL L [US], et al); US2008294144 A1 20081127 [] (LEO GIOVANNI [CH], et al); US2011087112 A1 20110414 [] (LEO GIOVANNI [CH], et al)
CCI	- A61B34/30
CCA	- A61B2017/00477 ; A61B2034/305 ; A61B2090/064 ; Y10T74/20335
CI	- A61B18/00 (US) - A61B34/20 (US) - A61B34/30 (EP, KR, US) - G01B11/16 (US) - G01L1/242 (US) - G02B6/12019 (US) - G02B6/264 (US) - G02B6/32 (US)
CA	- A61B2017/00477 (EP, KR, US) - A61B2018/2244 (KR) - A61B2018/2266 (KR) - A61B2034/2061 (US) - A61B2034/305 (EP, KR, US) - A61B2090/064 (EP, KR, US) - A61B2562/0266 (US) - Y10T74/20335 (EP, US)
PA	- (A1 B2) INTUITIVE SURGICAL OPERATIONS [US]
TI	- (A1) OPTIC FIBER CONNECTION FOR A FORCE SENSING INSTRUMENT - (B2) Optic fiber connection for a force sensing instrument
AB	- (A1 B2) In one embodiment, a surgical instrument includes a housing linkable with a manipulator arm of a robotic surgical system , a shaft operably coupled to the housing, a force transducer on a distal end of the shaft, and a plurality of fiber optic strain gauges on the force transducer. In one example, the plurality of strain gauges are operably coupled to a fiber optic splitter or an arrayed waveguide grating (AWG) multiplexer. A fiber optic connector is operably coupled to the fiber optic splitter or the AWG multiplexer. A wrist joint is operably coupled to a distal end of the force transducer, and an end effector is operably coupled to the wrist joint. In another embodiment, a robotic surgical manipulator includes a base link operably coupled to a distal end of a manipulator positioning system , and a distal link movably coupled to the base link, wherein the distal link includes an instrument interface and a fiber optic connector optically linkable to a surgical instrument. A method of passing data between an instrument and a manipulator via optical connectors is also provided.

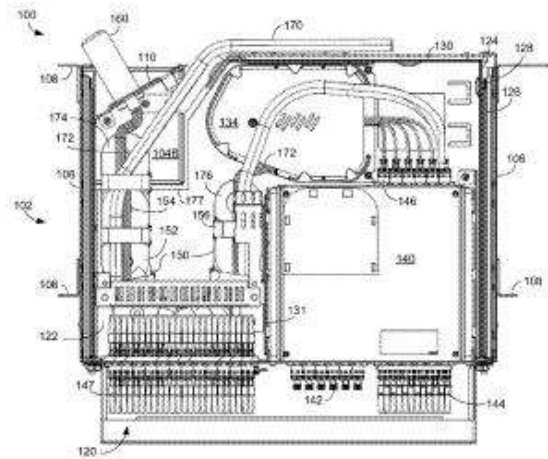
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PR	- US201715840662 20171213; US201514876140 20151006; US201462060289P 20141006
AP	- US201715840662 20171213
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CCI - [G02B6/4471](#) ; [G02B6/46](#)
CI - G02B6/4471 (EP, US)
- G02B6/46 (EP, US)
PA - COMMSCOPE TECHNOLOGIES LLC [US]
TI - FACILITATING INSTALLATION OF **FIBER OPTIC NETWORKS**
AB - An optical **system** architecture includes indexed optical lines that are indexed between first and second multi-fiber connectors; a first of the optical line having a first end terminated at the first multi-fiber connector; and a second optical line having a first end terminated at the second multi-fiber. An input of an optical **splitter** is optically coupled to second ends of the first and second optical lines. The optical **splitter** splits optical signals carried over the first and second optical lines onto output lines so that each output line carries signals split from the first optical line and signals split from the second optical line.

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PNFP - US10802237 B2 20201013
PR - US201715836021
20171208; US201514931699 20151103
AP - US201715836021 20171208
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CT - || STSE (A1)
[US2016231524](#) A1 20160811
[Y] (WOMACK WADE J [US])
[Y] 1-8, 27-34 , 9-11
* abstract figures 1 and 7-9 |
paragraphs 29-31 | paragraph 29 |
claim 2 | paragraph 29 claim 3 | claim 4
| paragraph 29 claim 6 | claim 7 | claim
8 | , abstract figures 1 and 7-9 |
paragraphs 29-31 | paragraph 29 |
claim 2 | paragraph 29 claim 3 | claim 4
| paragraph 29 claim 6 | claim 7 | claim
8 | *;
[US2016259129](#) A1 20160908 [Y] (GEENS
JOHAN [BE], et al)
[Y] 1-8, 27-34
* Figure 18 | Figures 30-31 *;
[US5339379](#) A 19940816 [Y] (KUTSCH
DUANE B [US], et al)
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[US7873252](#) B2 20110118 [] (SMRHA
MARK [US], et al);
[US8121457](#) B2 20120221 [] (ZIMMEL



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CCI	- G02B6/4455
CCA	- G02B6/3897 ; G02B6/4286 ; G02B6/4448 ; G02B6/4452
CI	- G02B6/4455 (EP, US) - G02B6/4457 (US) - G02B6/4471 (US)
CA	- G02B6/3897 (EP, US) - G02B6/4286 (EP, US) - G02B6/4448 (EP) - G02B6/4452 (EP, US)
PA	- (A1) RAYCAP INTELLECTUAL PROPERTY LTD [CY] - (B2) RAYCAP S A [GR]
TI	- (A1) FIBER OPTIC CABLE MANAGEMENT SYSTEM - (B2) Fiber optic cable management system
AB	- (A1 B2) A fiber optic cable management system includes a tray configured to reciprocate inside of an enclosure between an inserted position and an extended position. Optical fiber modules are located in the tray and retain optical fiber splitters or optical fiber multiplexer/de-multiplexers. The tray when moved to the extended position moves the optical fiber modules out of the front end of the rack enclosure. This allows a technician to access the back of the modules for maintenance operations without having to access the back end of the enclosure. A flexible cable guide allows the optical fibers connected to the modules to move with the tray into and out of the enclosure. Reflectors can be attached to the connectors to test fiber optic lines between a central office and the cell site location.

PNFP - US10416404 B2 20190917

PR - US201615735781 20160610; US201562175047P 20150612; US201562196119P 20150723; WO2016US37025 20160610

AP - US201615735781 20160610

DT - **

CCI - [G02B6/445](#) ; [G02B6/4455](#)

CI - G02B6/3897 (US)
- G02B6/4446 (US)
- G02B6/445 (EP, US)
- G02B6/4453 (US)
- G02B6/4455 (EP, US)
- G02B6/4478 (US)
- H04Q11/0003 (US)

CA - G02B6/4444 (US)
- H04Q2201/804 (US)

PA - (A1 B2)
COMMScope TECHNOLOGIES LLC [US]

TI - (A1)
TELECOMMUNICATIONS ENCLOSURE
- (B2)
Telecommunications enclosure

AB - (A1 B2)
This disclosure is related to a **fiber optic** distribution **system** including a telecommunications enclosure. In one aspect, the telecommunications enclosure can include a main body and a cover that together define an interior cavity. A first tray and a second tray can be mounted within the interior cavity. The first tray can be configured to hold a **fiber optic splitter** and to include cable management features. The second tray can be configured with a termination feature for connecting cables extending from the **splitter** to cables that can be distributed to individual locations remote from the enclosure, such as individual dwelling units.

18/140 © EPODOC / EPO

PN - [US2018100974](#) A1 20180412

PNFP - US10281660 B2 20190507

PR - US201715834506 20171207; US201715417966 20170127; US201514755380 20150630; US201462094424P 20141219

AP - US201715834506 20171207

DT - **

CCI - [G02B6/3849](#) ; [G02B6/3885](#) ; [G02B6/3895](#) ; [G02B6/3897](#) ; [G02B6/4472](#)

CCA - [G02B6/387](#)

CI - G02B6/3849 (EP, US)
- G02B6/3885 (EP, US)
- G02B6/3895 (EP, US)
- G02B6/3897 (EP, US)
- G02B6/4472 (EP, US)

CA - G02B6/387 (EP, US)

PA - (A1 B2)
COMMScope TECHNOLOGIES LLC [US]

TI - (A1)
DUST CAPS HAVING CODING **SYSTEM** FOR FACILITATING INSTALLING A **FIBER OPTIC** NETWORK
- (B2)
Splitter terminal with multi-fiber output connection location

AB - (A1 B2)

The present disclosure relates to a **fiber optic** network including first and second optical components desired to be optically coupled together, and third and fourth optical components desired to be couple together. The first and second optical components include first and second de-mateable connection locations having dust caps with first coordinated indicia. The third and fourth optical components include third and fourth de-mateable connection locations having dust caps with second coordinated indicia.

19/140 © EPODOC / EPO

PN - [WO2018172378](#) A1 20180927

PR - US201762473905P 20170320

AP - WO2018EP57074 20180320

DT - *, Rep

CT - |EP| ISR (A1)

[US2008124038](#) A1 20080529

[XA] (KOWALCZYK SCOTT C [US], et al)

[X] 1-7,15-17

* paragraphs [0009] , [0 34] - [0051] *

* figures 6, 8 *

[A] 8-14;

[US2011058785](#) A1 20110310

[XA] (SOLHEID JAMES J [US], et al)

[X] 1-7,15-17

* paragraphs [0060] - [0091] *

* figures 4, 5, 8 *

[A] 8-14;

[US2015355428](#) A1 20151210

[XA] (LEEMAN SAMUEL [BE], et al)

[X] 8-17

* paragraphs [0112] - [0116] - [143] *

* figures 32, 34, 70 *

[A] 1-7

CCI - [G02B6/4452](#)

CI - G02B6/4446 (US)

- G02B6/4452 (EP, US)

- G02B6/4454 (US)

PA - COMMSCOPE CONNECTIVITY BELGIUM
BVBA [BE]

TI - TELECOMMUNICATIONS **SYSTEM** AND
METHODS

AB - A cabinet having a framework for mounting telecommunications equipment includes a framework and telecommunications equipment mounted to the framework. The equipment may include **splitter** modules. Spools are mounted within the cabinet to manage overlength slack in **fiber optic** cables within the cabinet. A parking area is mounted within the cabinet and defines a plurality of cable connector storage locations for receiving at least some of the **fiber optic** cables. The plurality of spools are positioned intermediate the telecommunications equipment and the patch panel. A splice area is mounted within the cabinet or external to the

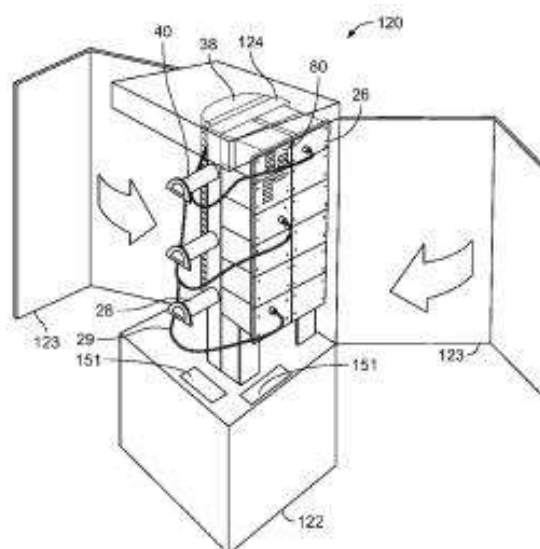


FIG. 1

cabinet. The splice area receives **fiber optic** cables for splicing to additional cables.

20/140 © EPODOC / EPO

PN - [US2017281298](#) A1 20171005

PNFP - US10085809 B2 20181002

PR - US201715486904 20170413; US201615141691 20160428; US201514714580 20150518; US201313892223 20130510; US20090415795 20090331

AP - US201715486904 20170413

DT - **

CT - || STSE (B2)
[USRE36592E](#) E 20000229 [] (SIECOR CORP [US]);
[US6411755](#) B1 20020625 [] (ERDOGAN TURAN [US]);
[US8157789](#) B2 20120417 [] (LEO GIOVANNI [CH], et al);
[US8385738](#) B2 20130226 [] (MAHLAB URI [IL]);
[US8628518](#) B2 20140114 [] (BLUMENKRANZ STEPHEN J [US], et al);
[US2005151975](#) A1 20050714 [] (MELNYK IVAN [CA]);
[US2008065111](#) A1 20080313 [] (BLUMENKRANZ STEPHEN J [US], et al);
[US2009103927](#) A1 20090423 [] (CUNNINGHAM DAVID GEORGE [US], et al);
[US2009317083](#) A1 20091224 [] (PRAT GOMA JOSEP [ES], et al);
[US2010250000](#) A1 20100930 [] (BLUMENKRANZ STEPHEN J [US], et al);
[US2011103748](#) A1 20110505 [] (OTT MICHAEL JAMES [US])

CCI - [A61B34/30](#)

CCA - [A61B2017/00477](#) ; [A61B2034/305](#) ; [A61B2090/064](#) ; [Y10T74/20335](#)

CI - A61B18/00 (US)
- A61B34/20 (US)
- A61B34/30 (EP, KR, US)
- G01B11/16 (US)
- G01L1/242 (US)
- G02B6/12019 (US)
- G02B6/264 (US)
- G02B6/32 (US)

CA - A61B2017/00477 (EP, KR, US)
- A61B2018/2244 (KR)
- A61B2018/2266 (KR)
- A61B2034/2061 (US)
- A61B2034/305 (EP, KR, US)
- A61B2090/064 (EP, KR, US)
- A61B2562/0266 (US)
- Y10T74/20335 (EP, US)

PA - (A1 B2)
INTUITIVE SURGICAL OPERATIONS [US]

TI - (A1)
OPTIC FIBER CONNECTION FOR A FORCE SENSING INSTRUMENT
- (B2)
Optic fiber connection for a force sensing instrument

AB - (A1 B2)
In one embodiment, a surgical instrument includes a housing linkable with a manipulator arm of a robotic surgical **system**, a shaft operably coupled to the housing, a force transducer on a distal end of the shaft, and a plurality of **fiber optic** strain gauges on the force transducer. In one example, the plurality of strain gauges are operably coupled to a **fiber optic splitter** or an arrayed waveguide grating (AWG) multiplexer. A **fiber optic** connector is operably coupled to the **fiber optic splitter** or the AWG multiplexer. A wrist joint is operably coupled to a distal end

of the force transducer, and an end effector is operably coupled to the wrist joint. In another embodiment, a robotic surgical manipulator includes a base link operably coupled to a distal end of a manipulator positioning **system**, and a distal link movably coupled to the base link, wherein the distal link includes an instrument interface and a **fiber optic** connector optically linkable to a surgical instrument. A method of passing data between an instrument and a manipulator via optical connectors is also provided.

21/140 © EPODOC / EPO

- PN - [WO2018065423](#) A1 20180412
- PR - US201662404523P
20161005; US201662432103P 20161209
- AP - WO2017EP75090 20171003
- DT - *; Rep
- CT - |EP| ISR (A1)
[US2010183276](#) A1 20100722
[XYI] (SMITH TREVOR D [US])
[X] 1,2,4-7,13,14,18,19,21-24
* paragraph [0014] - paragraph [0020]
*
* paragraph [0030] - paragraph [0056]
*
* paragraph [0061] *
* paragraph [0077] - paragraph [0081];
figures 3, 4, 5, 7, 8, 10 *
[Y] 3,15-17,20
[I] 8-12;
[US2004228598](#) A1 20041118 [Y] (ALLEN
BARRY W [US], et al)
[Y] 3,20
* paragraph [0041] - paragraph [0048]
*
* paragraph [0053] - paragraph [0061];
figures 1, 2, 6 *;
[US2008031585](#) A1 20080207
[Y] (SOLHEID JAMES J [US], et al)
[Y] 15-17
* paragraph [0038] - paragraph [0042]
*
* paragraph [0057] - paragraph [0062];
figures 2, 3, 12, 17 *
CCI - [G02B6/4452](#)
CCA - [G02B6/3897](#)
CI - G02B6/3897 (US)
- G02B6/4452 (EP, US)
- G02B6/4455 (US)
CA - G02B6/3897 (EP)
PA - COMMSCOPE CONNECTIVITY BELGIUM
BVBA [BE]
TI - TELECOMMUNICATIONSSYSTEMAND
METHODS
AB - A cabinet having a framework for
mounting telecommunications
equipment includes a framework and
telecommunications equipment mounted
to the framework. The equipment may
include **splitter** modules. Spools are

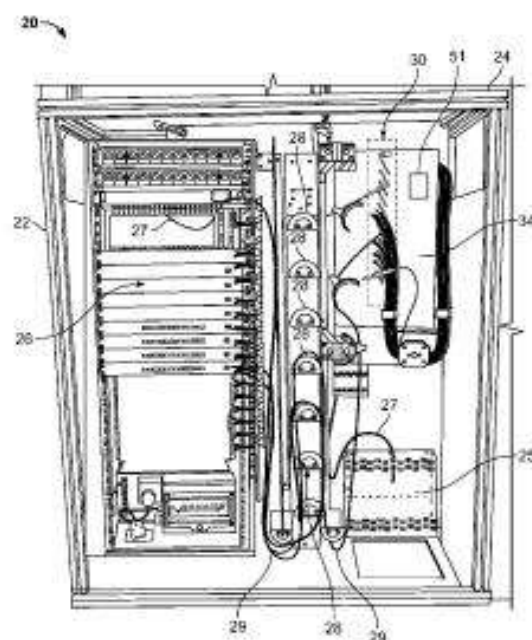


FIG. 1

mounted within the cabinet to manage overlength slack in **fiber optic** cables within the cabinet. A patch panel is mounted within the cabinet and define a plurality of cable termination locations for receiving at least some of the **fiber optic** cables. The patch panel is mounted on a pivotable frame between a storage position and an access position. The plurality of spools are positioned intermediate the telecommunications equipment and the patch panel. A splice area is mounted within the cabinet and is accessible when the pivotable frame is in the access position. The splice area receives **fiber optic** cables from the patch panel for splicing to additional cables.

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- PN - [US9735537](#) B1 20170815
- PR - US201615097043 20160412
- AP - US201615097043 20160412
- DT - *, Rep
- CT - || STSE (B1)
[US6275632](#) B1 20010814 [] (WAARTS ROBERT G [US], et al);
[US8493650](#) B2 20130723 [] (ROTHENBERG JOSHUA E [US], et al)
- CCI - [H01S3/0085](#) ; [H01S3/1307](#) ; [H01S3/2391](#)
- CCA - [G02B6/4214](#) ; [G02B6/4215](#) ; [G02B6/43](#) ; [H01S3/005](#) ; [H01S3/06754](#) ; [H01S3/1003](#)
- CI - G02B27/0037 (US)
G02B27/0927 (US)
G02B27/1006 (US)
G02B27/1086 (US)
G02B27/30 (US)
H01S3/0085 (EP, US)
H01S3/1307 (EP)
H01S3/2391 (EP, US)
- CA - G02B6/4214 (EP)
G02B6/4215 (EP)
G02B6/43 (EP)
H01S3/005 (EP)
H01S3/06754 (EP)
H01S3/1003 (EP)
- PA - ROTHENBERG JOSHUA E [US]; CHEUNG ERIC C [US]; GOODNO GREGORY D [US]; NORTHROP GRUMMAN SYSTEMS CORP [US]
- TI - Hybrid spectral and coherent beam combiner utilizing 1D fiber arrays
- AB - A **system** includes N master oscillators to generate N master oscillator driving signals. The **system** includes N **splitters** to split each of the N master oscillator signals into M coherent signals with M being a positive integer greater than one. A modulator and fiber amplifier stage adjusts the relative phases of the M coherent signals and generates M×N amplified signals. The M×N amplified signals are aggregated into M clusters of N fibers. The **system** includes M spectral beam combination (SBC) modules to combine each of the M clusters. Each SBC module combines the M×N amplified signals at N wavelengths and generates M tiled output beams. Each SBC module employs a single dimensional (1D) **fiber optic** array to transmit one cluster of N amplified signals from the M signal clusters and generates one tiled output beam of the M

tilled output beams.

23/140 © EPODOC / EPO

- PN - [US2017211952](#) A1 20170727
- PNFP - US10041816 B2 20180807
- PR - FR20140056551 20140708; WO2015FR51865 20150706
- AP - US201515324967 20150706
- DT - **
- CT - || R141 (A1)
[US2016363446](#) A1 20161215 [] (LEFEVRE HERVE [FR], et al);
[US4639138](#) A 19870127 [] (MARTIN JAMES M [US], et al);
[US6545261](#) B1 20030408 [] (BLAKE JAMES N [US], et al)
- || STSE (B2)
[US4639138](#) A 19870127 [] (MARTIN JAMES M [US], et al);
[US6545261](#) B1 20030408 [] (BLAKE JAMES N [US], et al);
[US2016363446](#) A1 20161215 [] (LEFEVRE HERVE [FR], et al)
- CCI - [G01C19/72](#) ; [G01C19/722](#) ; [G02B6/2726](#)
- CCA - [G02B6/30](#)
- CI - G01C19/72 (EP)
- G01C19/722 (EP, US)
- G01D5/344 (US)
- G01D5/35322 (US)
- G02B6/2726 (EP)
- CA - G01C19/721 (US)
- G02B5/126 (US)
- G02B6/126 (US)
- G02B6/30 (EP)
- G02F2001/211 (US)
- PA - (A1 B2)
IXBLUE [FR]
- TI - (A1)
OPTICAL FIBRE INTERFEROMETRIC **SYSTEM**
- (B2)
Sagnac-ring **fiber-optic** interferometric **system** with Rayleigh length spaced polarizer
- AB - (A1 B2)
Disclosed is an optical fiber interferometric **system** including a light source (1), a **fiber optic** coil (8), a coil **splitter** (3), a photodetector (2), and a polarization filtering unit. According to an embodiment, the polarization filtering unit includes a first waveguide polarizer (51), at least one second thin-plate polarizer (52) and an optical waveguide section (12), the at least one second polarizer (52) being disposed in the Rayleigh zone between a first waveguide end (21) of the first polarizer (51) and a second waveguide end (22) of the optical waveguide section (12).

24/140 © EPODOC / EPO

- PN - [CN106687841](#) A 20170517
- PNFP - CN106687841B B 20200814
- PR - US201462013223P 20140617; US201462017620P 20140626; US201462084416P 20141125; WO2015EP63620 20150617
- AP - CN20158042781 20150617
- DT - I
- CT - || STSE (A)
[US2007147765](#) A1 20070628 [A] (GNIADKEK JEFF [US], et al)
[A] 1-40
* 全文*;

[US2008031585](#) A1 20080207 [A] (SOLHEID JAMES J [US], et al)
 [A] 1-40
 * 全文 *;
[CN101384937](#) A 20090311 [A] (ADC TELECOMMUNICATIONS INC [US])
 [A] 1-40
 * 全文 *;
[US2009324187](#) A1 20091231 [Y] (WAKILEH GEORGE I [US], et al)
 [Y] 1-19,32
 * 说明书第0032-0033段, 附图3B *;
[CN102428396](#) A 20120425 [YX] (SUMITOMO ELECTRIC INDUSTRIES)
 [Y] 16-17,34-38
 * 说明书第0055-0082段, 附图1-17 *
 [X] 20-25,39-40;
[CN103238095](#) A 20130807 [YX] (3M INNOVATIVE PROPERTIES CO)
 [Y] 1-19,32, 34-38
 * 说明书第0060-0107段, 附图1-9 *
 [X] 26-31,33;
[CN203191600U](#) U 20130911 [Y] (SHANGHAI FUJIKURA GRANDWAY CO LTD)
 [Y] 20-38
 * 说明书第0027段, 附图1-2 *
 CCI - [G02B6/3897](#) ; [G02B6/445](#) ; [G02B6/4471](#)
 CI - G02B6/3897 (EP, US)
 - G02B6/445 (EP, CN, US)
 - G02B6/4457 (US)
 - G02B6/4471 (EP, US)
 CA - G02B6/3897 (CN)
 - G02B6/4471 (CN)
 PA - (A)
 TYCO ELECTRONICS RAYCHEM BVBA; ADC CZECH REPUBLIC SRO
 TI - (A)
 Cable distribution **system**
 AB - (A)
 A cable distribution **system** is provided wherein a feeder cable (20) with one or more feeder fibers is received by a distribution device or box. The feeder fibers are terminated to a **fiber optic** connector. Customers can directly connect to the connectors of the feeder cable through an adapter and a mating connector for a point-to-point connection. Alternatively, a **splitter** (142) input can be connected to one or more of the connectors of the feeder cable, such as through a pigtail extending from the **splitter**, wherein the **splitter** splits the signal as desired into a plurality of outputs. The outputs of the **splitters** can be in the form of connectors or adapters. Customers can connect to the **splitter** outputs through a mating connector (and an adapter if needed).
 25/140 © EPODOC / EPO
 PN - [US2017123175](#) A1 20170504
 PNFP - US10732370 B2 20200804
 PR - US201515320198 20150617; US201462013223P 20140617; US201462017620P 20140626; US201462084416P 20141125; WO2015EP63620 20150617
 AP - US201515320198 20150617
 DT - **
 CT - || R141 (A1)
[US2015286023](#) A1 20151008 [] (VAN BAELEN DAVID JAN IRMA [BE], et al);
[US2013170810](#) A1 20130704 [] (BADAR TIMOTHY G [US], et al);
[US2009290842](#) A1 20091126 [] (BRAN DE LEON OSCAR FERNANDO [US], et al);
[US2009060440](#) A1 20090305 [] (WRIGHT WILLIAM [US], et al);
[US2016370551](#) A1 20161222 [] (HILL JOHN P [US], et al)

	- STSE (A1) US8929708 B2 20150106 [X] (PIMENTEL NELSON GONCALVES [DE], et al) [X] 1-12, 14-33 * abstract figures 1A figure 8A figure 11 figure 9A claim 4 figure 4 figure 7A claim 3 claim 19 figures 8A *; US2009060440 A1 20090305 [A] (WRIGHT WILLIAM [US], et al); US2013170810 A1 20130704 [A] (BADAR TIMOTHY G [US], et al); US2009290842 A1 20091126 [A] (BRAN DE LEON OSCAR FERNANDO [US], et al); US2016370551 A1 20161222 [A] (HILL JOHN P [US], et al); US2015286023 A1 20151008 [A] (VAN BAELEN DAVID JAN IRMA [BE], et al) - STSE (B2) US8929708 B2 20150106 [] (PIMENTEL NELSON GONCALVES [DE], et al); US2002037147 A1 20020328 [] (MCLEAN THOMAS [US], et al); US2005129379 A1 20050616 [] (REAGAN RANDY [US], et al); US2006138268 A1 20060629 [] (HUANG CHING [TW]); US2006228086 A1 20061012 [] (HOLMBERG MATTHEW [US], et al); US2009060440 A1 20090305 [] (WRIGHT WILLIAM [US], et al); US2009290842 A1 20091126 [] (BRAN DE LEON OSCAR FERNANDO [US], et al); US2011262095 A1 20111027 [] (FABRYKOWSKI GRZEGORZ [PL], et al); US2013170810 A1 20130704 [] (BADAR TIMOTHY G [US], et al); US2015286023 A1 20151008 [] (VAN BAELEN DAVID JAN IRMA [BE], et al); US2016202441 A1 20160714 [] (CLAESSENS BART MATTIE [BE], et al); US2016309680 A1 20161027 [] (BLOHM WALTER [US]); US2016370551 A1 20161222 [] (HILL JOHN P [US], et al)
CCI	- G02B6/3897 ; G02B6/445 ; G02B6/4471
CI	- G02B6/3897 (EP, US) - G02B6/445 (EP, CN, US) - G02B6/4457 (US) - G02B6/4471 (EP, US)
CA	- G02B6/3897 (CN) - G02B6/4471 (CN)
PA	- (A1) TYCO ELECTRONICS RAYCHEM BVBA [BE]; ADC CZECH REPUBLIC SRO [CZ]; COMMSCOPE CONNECTIVITY BELGIUM BVBA [BE] - (B2) TYCO ELECTRONICS RAYCHEM BVBA [BE]; ADC CZECH REPUBLIC SRO [CZ]; COMMSCOPE CONNECTIVITY BELGIUM BVBA [BE]; ADC CZECH REPUBLIC [CZ]
TI	- (A1) CABLE DISTRIBUTION SYSTEM - (B2) Cable distribution system
AB	- (A1 B2) A cable distribution system is provided wherein a feeder cable with one or more feeder fibers is received by a distribution device or box. The feeder fibers are terminated to a fiber optic connector. Customers can directly connect to the connectors of the feeder cable through an adapter and a mating connector for a point-to-point connection. Alternatively, a splitter input can be connected to one or more of the connectors of the feeder cable, such as through a pigtail extending from the splitter, wherein the splitter splits the signal as desired into a plurality of outputs. The outputs of the splitters can be in the form of connectors or adapters. Customers can connect to the splitter outputs through a mating connector (and an adapter if needed).
26/140	© EPODOC / EPO
PN	- US2017063470 A1 20170302
PNFP	- US10819444 B2 20201027
PR	- US201615231138 20160808; US201414486453 20140915; US201113086909 20110414; US20100324284P 20100414

AP - US201615231138 20160808

DT - **

CT - || R141 (A1)

[US2003174996](#) A1 20030918 [] (HENSCHER JAMES J [US], et al);

[US2004228598](#) A1 20041118 [] (ALLEN BARRY W [US], et al);

[US2005002633](#) A1 20050106 [] (SOLHEID JAMES J [US], et al);

[US2005105873](#) A1 20050519 [] (REAGAN RANDY [US], et al);

[US2006008231](#) A1 20060112 [] (REAGAN RANDY [US], et al);

[US2006093303](#) A1 20060504 [] (REAGAN RANDY [US], et al);

[US2007071189](#) A1 20070329 [] (HENNING IAN D [GB], et al);

[US2009016741](#) A1 20090115 [] (SMITH DAVID W [GB], et al);

[US2009196616](#) A1 20090806 [] (BOLSTER KRISTOFER [US], et al);

[US2011211799](#) A1 20110901 [] (CONNER MARK EDWARD [US], et al);

[US8649649](#) B2 20140211 [] (SMITH TREVOR D [US], et al);

[US2015309271](#) A1 20151029 [] (HUEGERICH THOMAS P [US], et al);

[US2015309276](#) A1 20151029 [] (COLLART STEPHANE [BE], et al);

[US2016077296](#) A1 20160317 [] (KOWALCZYK SCOTT C [US], et al)

- || STSE (A1)

[US2009196616](#) A1 20090806 [Y] (BOLSTER KRISTOFER [US], et al)

[Y] 4-13, 16-18;

[US5202780](#) A 19930413 [Y] (FUSSAENDER KURT [DE])

[Y] 4-14, 16-18

* Fig 1 | Col 1 lines 53-56 | claim 4 | Fig 2 | Fig 3A | claim 8 | claim 7 | claim 9 | claim 10 | Fig 8 | claim 11 | claim 12 | claim 13 | claim 16 | claim 14 | *;

[US2006008231](#) A1 20060112 [Y] (REAGAN RANDY [US], et al)

[Y] 4-14, 16-18

* Fig 12 | claim 4 | Fig 2 | Fig 3A | claim 8 | claim 7 | claim 9 | claim 10 | Fig 8 | claim 11 | claim 12 | claim 13 | Fig 4A | claim 16 | claim 14 | *;

[US2009307984](#) A1 20091217 [Y] (THOMPSON KEVIN [US], et al)

[Y] 14;

[US2005105873](#) A1 20050519 [A] (REAGAN RANDY [US], et al);

[US8649649](#) B2 20140211 [A] (SMITH TREVOR D [US], et al);

[US2005002633](#) A1 20050106 [A] (SOLHEID JAMES J [US], et al);

[US2007071189](#) A1 20070329 [A] (HENNING IAN D [GB], et al);

[US2015309271](#) A1 20151029 [A] (HUEGERICH THOMAS P [US], et al);

[US2006093303](#) A1 20060504 [A] (REAGAN RANDY [US], et al);

[US2009016741](#) A1 20090115 [A] (SMITH DAVID W [GB], et al);

[US2004228598](#) A1 20041118 [A] (ALLEN BARRY W [US], et al);

[US2016077296](#) A1 20160317 [A] (KOWALCZYK SCOTT C [US], et al);

[US2015309276](#) A1 20151029 [A] (COLLART STEPHANE [BE], et al);

[US2011211799](#) A1 20110901 [A] (CONNER MARK EDWARD [US], et al);

[US2003174996](#) A1 20030918 [A] (HENSCHER JAMES J [US], et al)

- || STSE (B2)

[US5202780](#) A 19930413 [] (FUSSAENDER KURT [DE]);

[US5457557](#) A 19951010 [] (ZAREM HAROLD A [US], et al);

[US8649649](#) B2 20140211 [] (SMITH TREVOR D [US], et al);

[US2003174996](#) A1 20030918 [] (HENSCHER JAMES J [US], et al);

[US2004228598](#) A1 20041118 [] (ALLEN BARRY W [US], et al);

[US2005002633](#) A1 20050106 [] (SOLHEID JAMES J [US], et al);

[US2005105873](#) A1 20050519 [] (REAGAN RANDY [US], et al);

[US2006008231](#) A1 20060112 [] (REAGAN RANDY [US], et al);

[US2006093303](#) A1 20060504 [] (REAGAN RANDY [US], et al);

[US2007071189](#) A1 20070329 [] (HENNING IAN D [GB], et al);

[US2009016741](#) A1 20090115 [] (SMITH DAVID W [GB], et al);

[US2009196616](#) A1 20090806 [] (BOLSTER KRISTOFER [US], et al);

[US2009307984](#) A1 20091217 [] (THOMPSON KEVIN [US], et al);

[US2011211799](#) A1 20110901 [] (CONNER MARK EDWARD [US], et al);

[US2015309271](#) A1 20151029 [] (HUEGERICH THOMAS P [US], et al);

	US2015309276 A1 20151029 [] (COLLART STEPHANE [BE], et al); US2016077296 A1 20160317 [] (KOWALCZYK SCOTT C [US], et al)
CCI	- G02B6/483 ; H04Q11/0067
CCA	- G02B6/4457 ; H04Q2011/009 ; H04W88/085
CI	- G02B6/483 (EP, US) - H04B10/25753 (US) - H04B10/807 (US) - H04Q11/0067 (EP, US)
CA	- G02B6/4457 (EP, US) - H04Q2011/009 (EP, US) - H04W88/085 (EP, US)
PA	- (A1 B2) COMMScope TECHNOLOGIES LLC [US]
TI	- (A1) METHODS AND SYSTEMS FOR DISTRIBUTING FIBER OPTIC TELECOMMUNICATION SERVICES TO LOCAL AREAS AND FOR SUPPORTING DISTRIBUTED ANTENNA SYSTEMS - (B2) Methods and systems for distributing fiber optic telecommunication services to local areas and for supporting distributed antenna systems
AB	- (A1 B2) A fiber optic network includes a fiber distribution hub including at least one splitter and a termination field; a plurality of drop terminals optically connected to the fiber distribution hub by a plurality of distribution cables; and a distributed antenna system (DAS). The DAS includes a base station and a plurality of antenna nodes. The base station is optically connected to the fiber distribution hub and the antenna nodes are optically connected to the drop terminals. Example splitters include a passive optical power splitter and a passive optical wavelength splitter . Signals from a central office can be routed through the passive optical power splitter before being routed to subscriber locations optically connected to the drop terminals. Signals from the base station can be routed through the wavelength splitter before being routed to the antenna nodes.
27/140	© EPODOC / EPO
PN	- CN106461954 A 20170222
PNFP	- CN106461954B B 20191018
PR	- US201461975414P 20140404; WO2015US23545 20150331
AP	- CN20158024978 20150331
DT	- I
CT	- STSE (A) US2004223769 A1 20041111 [Y] (HOSHIDA TAKESHI [US]) [Y] 1-20 * 说明书第[0023]-[0028]段、图1-7 *; CN102621644 A 20120801 [Y] (AVAGO TECH FIBER IP SG PTE LTD) [Y] 1-20 * 说明第[0017]-[0019]段、图1-2 *; CN202837626U U 20130327 [A] (DEXIN DONGYUAN ELECTRIC POWER TECHNOLOGY SERVICE BEIJING CO LTD) [A] 1-20 * 全文 *; US2013279856 A1 20131024 [Y] (BODUCH MARK E [US], et al) [Y] 9-12 * 说明书第[0027]-[0030]段 *; US2014023312 A1 20140123 [Y] (SHANG ALAIN ZHI [US], et al) [Y] 4-6, 13-14 * 说明书第[0019]-[0021]段、图1-2 *
CCI	- G02B6/3897 ; G02B6/4246 ; G02B6/4292 ; H04B10/27

CCA - [G02B6/3825](#)

CI - G02B6/3897 (EP, US)
 - G02B6/4246 (EP, US)
 - G02B6/4292 (EP, US)
 - G02B6/43 (US)
 - H04B10/2504 (US)
 - H04B10/27 (EP, US)

CA - G02B6/3825 (EP, US)

PA - (A)
 ADC TELECOMMUNICATIONS INC; TYCO ELECTRONICS CORP

TI - (A)
 Optical **splitter**

AB - (A)
 A **fiber optic tap system** includes a first receiver module having an input port configured to receive an optical fiber. The first receiver module is operable to convert a received optical signal to an electrical signal. A first transmitter module is coupled to receive the electrical signal from the first receiver module and convert the received electrical signal to an optical signal. The first transmitter module has an output port for outputting the optical signal. A first tap module is coupled to receive the electrical signal from the first receiver module.

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PN - [AU2015276109](#) A1 20170119

PR - US201462013223P 20140617; US201462084416P 20141125; US201462017620P 20140626; WO2015EP63620 20150617

AP - AU20150276109 20150617

DT - I

CCI - [G02B6/3897](#) ; [G02B6/445](#) ; [G02B6/4471](#)

CI - G02B6/3897 (EP, US)
 - G02B6/445 (EP, CN, US)
 - G02B6/4457 (US)
 - G02B6/4471 (EP, US)

CA - G02B6/3897 (CN)
 - G02B6/4471 (CN)

PA - ADC CZECH REPUBLIC SRO [CZ]; COMMSCOPE CONNECTIVITY BELGIUM BV [BE]

TI - Cable distribution **system**

AB - A cable distribution **system** is provided wherein a feeder cable with one or more feeder fibers is received by a distribution device or box. The feeder fibers are terminated to a **fiber optic** connector. Customers can directly connect to the connectors of the feeder cable through an adapter and a mating connector for a point-to-point connection. Alternatively, a **splitter** input can be connected to one or more of the connectors of the feeder cable, such as through a pigtail extending from the **splitter**, wherein the **splitter** splits the signal as desired into a plurality of outputs. The outputs of the **splitters** can be in the form of connectors or adapters. Customers can connect to the **splitter** outputs through a mating connector (and an adapter if needed).

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PN - [WO2016206424](#) A1 20161229

PR - CN201510369267 20150626

AP - WO2016CN77413 20160325

DT - **

CT - [CN] ISR (A1)
[CN105096445](#) A 20151125 [PX] (GRG BANKING EQUIPMENT CO LTD)
 [PX] 1-10
 * , claims 1-10, description, paragraphs [0039]-[0111], and figures 1 and 2 *;

[CN104464076](#) A 20150325 [A] (EASTCOM INC, et al)
 [A] 1-10
 *, description, paragraphs [0003]-[0016], and figures 1-3 *;
[CN204044916U](#) U 20141224 [A] (DALIAN EVERSPRY SCI & TECH CO LTD)
 [A] 1-10
 *, the whole document *;
[CN103021069](#) A 20130403 [A] (SHENZHEN ZHAOTU ELECTRONICS CO LTD)
 [A] 1-10
 *, the whole document *;
[JP2006338325](#) A 20061214 [A] (NIPPON SIGNAL CO LTD)
 [A] 1-10
 *, the whole document *;
[JP2014170313](#) A 20140918 [A] (TOSHIBA CORP)
 [A] 1-10
 *, the whole document *

CCI - [G02B27/28](#) ; [G07D7/12](#) ; [G07D7/121](#) ; [G07D7/20](#) ; [G07D7/205](#)
 CI - G02B27/28 (EP, RU)
 - G02B27/283 (RU, US)
 - G02B27/286 (RU, US)
 - G06T7/0002 (RU, US)
 - G07D7/12 (EP, RU)
 - G07D7/121 (EP, RU, US)
 - G07D7/20 (EP, RU)
 - G07D7/205 (EP, RU, US)

PA - GRG BANKING IT CO LTD [CN]; GRG BANKING EQUIPMENT CO LTD [CN]
 TI - NOTE IMAGE ACQUISITION **SYSTEM**
 AB - A note image acquisition **system**, comprising: a fiber laser (1), a **fiber-optic** beam **splitter** (2), a **fiber-optic** sight (3), a laser beam expander (4), a lithium niobate intensity modulator array (5), a waveform generator (6), a signal amplifier (7), a polarizing beam **splitter** (8), a quarter-wave plate (9), an imaging lens group (11), a line of photosensitive chips (12), an image information processing module (13) and an image combining module (14). The note image acquisition **system** can improve resolution of details of a note image without needing to increase the number of photosensitive chip units per unit length of a linear array image sensor.

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PN - [EP3316229](#) A1 20180502
 PNFP - EP3316229 A4 20180711
 - EP3316229 B1 20191023
 PR - CN201510369267 20150626; WO2016CN77413 20160325
 AP - EP20160813540 20160325
 DT - *, Rep
 CT - || STSE (A4)
[US2014285812](#) A1 20140925 [I] (LEVITZ DAVID [IL])
 [I] 1-8,10
 * paragraphs [0028] - [0062]; figures 2-4 *;
[US2013002968](#) A1 20130103 [A] (BRIDGE ROBERT F [US], et al)
 [A] 1-10
 * paragraphs [0067] - [0128]; figure 2 *

CCI - [G02B27/28](#) ; [G07D7/12](#) ; [G07D7/121](#) ; [G07D7/20](#) ; [G07D7/205](#)
 CI - G02B27/28 (EP, RU)
 - G02B27/283 (RU, US)
 - G02B27/286 (RU, US)
 - G06T7/0002 (RU, US)
 - G07D7/12 (EP, RU)

	- G07D7/121 (EP, RU, US)
	- G07D7/20 (EP, RU)
	- G07D7/205 (EP, RU, US)
PA	- (A1 A4 B1) GRG BANKING EQUIPMENT CO LTD [CN]
TI	- (A1 A4 B1) NOTE IMAGE ACQUISITION SYSTEM
AB	- (A1) A note image acquisition system , comprising: a fiber laser (1), a fiber-optic beam splitter (2), a fiber-optic sight (3), a laser beam expander (4), a lithium niobate intensity modulator array (5), a waveform generator (6), a signal amplifier (7), a polarizing beam splitter (8), a quarter-wave plate (9), an imaging lens group (11), a line of photosensitive chips (12), an image information processing module (13) and an image combining module (14). The note image acquisition system can improve resolution of details of a note image without needing to increase the number of photosensitive chip units per unit length of a linear array image sensor.

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PN	- WO2016201329 A1 20161215
PR	- US201562175047P 20150612; US201562196119P 20150723
AP	- WO2016US37025 20160610
DT	- *, Rep
CT	- [KR] ISR (A1) US2008285933 A1 20081120 [Y] (VOGEL MARK [US], et al) [Y] 1-24 * See paragraphs [0030]-[0059] and figures 1-9. *; US2010329623 A1 20101230 [Y] (SMITH TREVOR D [US], et al) [Y] 1-24 * See paragraphs [0046]-[0047] and figures 9-10. *; US2011222829 A1 20110915 [A] (LOEFFELHOLZ TODD [US], et al) [A] 1-24 * See abstract and figures 2-7. *; US2010329624 A1 20101230 [A] (ZHOU JUNSHENG [CN], et al) [A] 1-24 * See figures 1-7. *; US2010183274 A1 20100722 [A] (BRUNET HERVE [FR], et al) [A] 1-24 * See figures 1-10. *
CCI	- G02B6/445 ; G02B6/4455
CI	- G02B6/3897 (US) - G02B6/4446 (US) - G02B6/445 (EP, US) - G02B6/4453 (US) - G02B6/4455 (EP, US) - G02B6/4478 (US) - H04Q11/0003 (US)
CA	- G02B6/4444 (US) - H04Q2201/804 (US)
PA	- COMMScope TECHNOLOGIES LLC [US]
TI	- TELECOMMUNICATIONS ENCLOSURE
AB	- This disclosure is related to a fiber optic distribution system including a telecommunications enclosure. In one aspect, the telecommunications enclosure can include a main body and a cover that together define an interior cavity. A first tray and a second tray can be mounted within the interior cavity. The first tray can be configured to hold a fiber optic splitter and to include cable management features. The second tray can be configured with a termination

feature for connecting cables extending from the **splitter** to cables that can be distributed to individual locations remote from the enclosure, such as individual dwelling units.

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- PN - [US2016349473](#) A1 20161201
- PNFP - US9638882 B2 20170502
- PR - US201615235193 20160812; US201314136247 20131220
- AP - US201615235193 20160812
- DT - **
- CT - || STSE (B2)
[US5228631](#) A 19930720 [] (HU WILLIAM C [US], et al);
[US6398149](#) B1 20020604 [] (HINES MICHAEL J [US], et al);
[US7627223](#) B1 20091201 [] (BUREK DENIS E [US], et al);
[US2008315030](#) A1 20081225 [] (HENDRICKSON DANIEL [US], et al);
[US2009294388](#) A1 20091203 [] (LEICHTER ERIC [US]);
[US2011103761](#) A1 20110505 [] (LEBLANC THOMAS G [US], et al);
[US2012063735](#) A1 20120315 [] (NAIR K R SURESH [IN], et al);
[US2013284844](#) A1 20131031 [] (HOLMBERG MATTHEW [US], et al)
- CCI - [B65H49/325](#) ; [B65H49/327](#) ; [B65H49/328](#) ; [B65H75/4428](#) ; [G02B6/3897](#) ; [G02B6/4457](#) ;
[G02B6/4466](#)
- CCA - [B65H2701/32](#) ; [G02B6/4454](#) ; [Y10T29/49826](#)
- CI - B65H49/325 (EP, US)
B65H49/327 (EP, US)
B65H49/328 (EP, US)
B65H75/4428 (EP, US)
G02B6/3897 (EP, US)
G02B6/4457 (EP, US)
G02B6/4466 (EP, US)
G02B6/46 (US)
- CA - B65H2701/32 (EP, US)
G02B6/3564 (US)
G02B6/4454 (EP, US)
Y10T29/49826 (EP, US)
- PA - (A1 B2)
GOOGLE INC [US]
- TI - (A1)
Spooling Cable
(B2)
Spooling cable
- AB - (A1 B2)
A method includes mounting a spool **system** at a floor level of a multiple dwelling unit. The floor level has multiple customer units. The spool **system** includes at least one spool of **fiber optic** cable. Each end of each **fiber optic** cable has a spliced-on connector. The method further includes paying out a length of **fiber optic** cable from the at least one spool to reach a customer unit of the floor level, connecting one of the connectors of the paid-out **fiber optic** cable to a floor **splitter**, and connecting the floor **splitter** to a distribution **splitter** of the multiple dwelling unit.

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PN - [WO2018065801](#) A1 20180412

PR - WO2016IB55913 20161004

AP - WO2016IB55913 20161004

DT - *, Rep

CT - |EP| ISR (A1)
[US2015092043](#) A1 20150402
 [XDI] (BARIBAULT ROBERT [CA])
 [XD] 1
 * paragraphs [0030] , [0045] , [0050] , [0052] , [0074] - [0075]; figures 2B, 4-10 *
 [I] 2-7;
[US6636658](#) B2 20031021
 [A] (GOODMAN TIMOTHY D [US], et al)
 [A] 1-7
 * Figures 1, 2 and 7 and corresponding description *;
[JP2003131072](#) A 20030508 [A] (TOKYO SEIMITSU CO LTD)
 [A] 1-7
 * abstract *;
[EP0838679](#) A2 19980429 [A] (NEC CORP [JP])
 [A] 1-7
 * Figures 1 and 2 and corresponding description *;
[WO2008036468](#) A2 20080327 [A] (EM4 INC, et al)
 [A] 1-7
 * paragraph [0011] - paragraph [0018]; figures 1,5 *;
[US6674572](#) B1 20040106
 [A] (SCHERUEBL THOMAS [DE], et al)
 [A] 1-7
 * figures 1,4,7,8 *

CCI - [G01M11/31](#)

CCA - [G02B6/385](#)

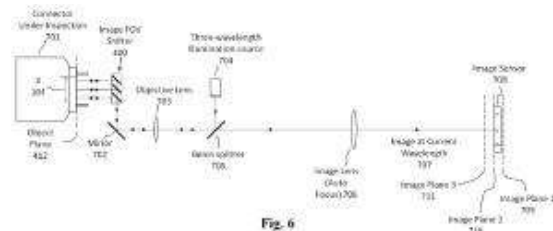
CI - G01M11/31 (EP, US)
 - G01M11/33 (US)
 - G02B6/385 (US)

CA - G02B6/385 (EP)

PA - UAB LIFODAS [LT]

TI - IMAGING **SYSTEM** FOR MULTI-FIBER OPTIC CONNECTOR INSPECTION

AB - A digital **fiber optic** connector imaging **system** that can automatically capture two or more images of the endface of a multifiber connector, wherein the captured images as a group have sufficient resolution and a sufficient FOV to be used to perform a manual or automatic pass-fail analysis of the endface of every fiber terminated by the connector under inspection. In one or more embodiments, the imaging **system** comprises an illumination source that can operate at



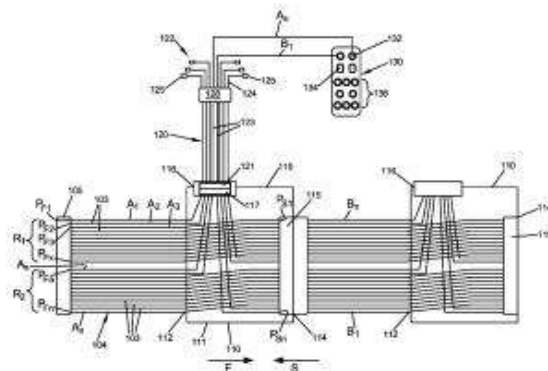
two or more wavelengths, one wavelength at a time, and a FOV-shifting component that includes one or more, fixed dichroic mirrors and one additional dichroic or broadband mirror. In other embodiments, the imaging **system** comprises a single-wavelength illumination source, an image beam **splitter**, and two or more image sensors located on two image planes.

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- PN - [US2016235488](#) A1 20160818
- PNFP - US9649172 B2 20170516
- PR - US201615141691 20160428; US201514714580 20150518; US201313892223 20130510; US20090415795 20090331; US20060537241 20060929; US20050755108P 20051230; US20050755157P 20051230; US20070958772 20071218; US20070864974 20070929; US20060553303 20061026; US20050093372 20050330
- AP - US201615141691 20160428
- DT - **
- CT - || R141 (A1)
[US2005151975](#) A1 20050714 [] (MELNYK IVAN [CA]);
[US2009103927](#) A1 20090423 [] (CUNNINGHAM DAVID GEORGE [US], et al);
[US2009317083](#) A1 20091224 [] (PRAT GOMA JOSEP [ES], et al);
[US2010250000](#) A1 20100930 [] (BLUMENKRANZ STEPHEN J [US], et al);
[US2011103748](#) A1 20110505 [] (OTT MICHAEL JAMES [US]);
[US8157789](#) B2 20120417 [] (LEO GIOVANNI [CH], et al);
[US8385738](#) B2 20130226 [] (MAHLAB URI [IL]);
[US8628518](#) B2 20140114 [] (BLUMENKRANZ STEPHEN J [US], et al)
 - || STSE (B2)
[US8157789](#) B2 20120417 [] (LEO GIOVANNI [CH], et al);
[US8385738](#) B2 20130226 [] (MAHLAB URI [IL]);
[US8628518](#) B2 20140114 [] (BLUMENKRANZ STEPHEN J [US], et al);
[US2005151975](#) A1 20050714 [] (MELNYK IVAN [CA]);
[US2009103927](#) A1 20090423 [] (CUNNINGHAM DAVID GEORGE [US], et al);
[US2009317083](#) A1 20091224 [] (PRAT GOMA JOSEP [ES], et al);
[US2010250000](#) A1 20100930 [] (BLUMENKRANZ STEPHEN J [US], et al);
[US2011103748](#) A1 20110505 [] (OTT MICHAEL JAMES [US])
- CCI - [A61B34/30](#)
- CCA - [A61B2017/00477](#) ; [A61B2034/305](#) ; [A61B2090/064](#) ; [Y10T74/20335](#)
- CI - A61B18/00 (US)
 - A61B34/20 (US)
 - A61B34/30 (EP, KR, US)
 - G01B11/16 (US)
 - G01L1/242 (US)
 - G02B6/12019 (US)
 - G02B6/264 (US)
 - G02B6/32 (US)
- CA - A61B2017/00477 (EP, KR, US)
 - A61B2018/2244 (KR)
 - A61B2018/2266 (KR)
 - A61B2034/2061 (US)
 - A61B2034/305 (EP, KR, US)
 - A61B2090/064 (EP, KR, US)

	- A61B2562/0266 (US)
	- Y10T74/20335 (EP, US)
PA	- (A1 B2) INTUITIVE SURGICAL OPERATIONS [US]
TI	- (A1) OPTIC FIBER CONNECTION FOR A FORCE SENSING INSTRUMENT
	- (B2) Optic fiber connection for a force sensing instrument
AB	- (A1 B2) In one embodiment, a surgical instrument includes a housing linkable with a manipulator arm of a robotic surgical system , a shaft operably coupled to the housing, a force transducer on a distal end of the shaft, and a plurality of fiber optic strain gauges on the force transducer. In one example, the plurality of strain gauges are operably coupled to a fiber optic splitter or an arrayed waveguide grating (AWG) multiplexer. A fiber optic connector is operably coupled to the fiber optic splitter or the AWG multiplexer. A wrist joint is operably coupled to a distal end of the force transducer, and an end effector is operably coupled to the wrist joint. In another embodiment, a robotic surgical manipulator includes a base link operably coupled to a distal end of a manipulator positioning system , and a distal link movably coupled to the base link, wherein the distal link includes an instrument interface and a fiber optic connector optically linkable to a surgical instrument. A method of passing data between an instrument and a manipulator via optical connectors is also provided.

35/140	© EPODOC / EPO
PN	- US2016097909 A1 20160407
PNFP	- US9851525 B2 20171226
PR	- US201514876140 20151006; US201462060289P 20141006
AP	- US201514876140 20151006
DT	- *, Rep
CT	- STSE (B2) US5321541 A 19940614 [] (COHEN LEONARD G [US]); US2008285916 A1 20081120 [] (SAPPEY ANDREW D [US], et al); US2008317468 A1 20081225 [] (VILLARRUEL FERNANDO X [US], et al); US2010092171 A1 20100415 [] (CONNER MARK E [US]); US2010303408 A1 20101202 [] (CONNER MARK E [US], et al); US2011135307 A1 20110609 [] (CONNER MARK E [US], et al); US2014105539 A1 20140417 [] (CONNER MARK EDWARD [US], et al); US2014226939 A1 20140814 [] (BOXER MARK [US], et al); US2015378112 A1 20151231 [] (MARCOUILLER THOMAS [US], et al)
CCI	- G02B6/4471 ; G02B6/46
CI	- G02B6/4471 (EP, US) - G02B6/46 (EP, US)
PA	- (A1) ADC TELECOMMUNICATIONS INC [US] - (B2) ADC TELECOMMUNICATIONS INC [US];



	COMMSCOPE TECHNOLOGIES LLC [US]
TI	- (A1) FACILITATING INSTALLATION OF FIBER OPTIC NETWORKS - (B2) Facilitating installation of fiber optic networks
AB	- (A1) An optical network includes an optical cable arrangement including optical fibers that define optical lines; an indexing terminal disposed at an intermediate location along the optical cable arrangement; a splitter terminal disposed external of the indexing terminal; and an output cable. The optical lines are indexed at the indexing terminal so that at least one of the optical lines drops off at the indexing terminal. The output cable optically couples the optical line that drops off at the indexing terminal to an input of an optical splitter at the splitter terminal. - (B2) An optical system architecture includes indexed optical lines that are indexed between first and second multi-fiber connectors; a first of the optical line having a first end terminated at the first multi-fiber connector; and a second optical line having a first end terminated at the second multi-fiber. An input of an optical splitter is optically coupled to second ends of the first and second optical lines. The optical splitter splits optical signals carried over the first and second optical lines onto output lines so that each output line carries signals split from the first optical line and signals split from the second optical line.

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PN	- US2015355428 A1 20151210
PNFP	- US10031305 B2 20180724
PR	- US201314653888 20131219; US201261739461P 20121219; US201361840832P 20130628; US201361883320P 20130927; US201361908054P 20131123; WO2013EP77292 20131219
AP	- US201314653888 20131219
DT	- **
CT	- STSE (B2) US7218828 B2 20070515 [] (FEUSTEL CLAY A [US], et al); US7418181 B2 20080826 [] (ZIMMEL STEVEN C [US], et al); US2005053341 A1 20050310 [] (ZIMMEL STEVEN C [US]); US2010129030 A1 20100527 [] (GIRAUD WILLIAM J [US], et al); US2010329623 A1 20101230 [] (SMITH TREVOR D [US], et al); US2011058785 A1 20110310 [] (SOLHEID JAMES J [US], et al); US2011091170 A1 20110421 [] (BRAN DE LEON OSCAR FERNANDO [US], et al);

	US2015301301 A1 20151022 [] (MULLANEY JULIAN S [US]); US2017123175 A1 20170504 [] (VAN BAELEN DAVID JAN IRMA [BE], et al)
CCA	- G02B6/4455 ; G02B6/4457 ; G02B6/4466
CI	- G02B6/44 (RU) - G02B6/4452 (RU, US) - G02B6/4454 (US)
CA	- G02B6/4455 (EP) - G02B6/4457 (EP) - G02B6/4466 (EP)
PA	- (A1) TYCO ELECTRONICS RAYCHEM BVBA [BE] - (B2) COMMSCOPE CONNECTIVITY BELGIUM BVBA [BE]
TI	- (A1) DISTRIBUTION DEVICE WITH INCREMENTALLY ADDED SPLITTERS - (B2) Distribution device with incrementally added splitters
AB	- (A1 B2) A fiber distribution system (10) includes a fiber distribution hub (20, 300); at least one fiber distribution terminal (30, 100); and a cable (40) wrapped around a spool (110) of the fiber distribution terminal (30, 100). The fiber distribution terminal (30, 100) includes a spool (110) and a management tray (120) that rotate together. A second connectorized end (40b) of the cable (40) is held at a fiber optic adapter (125) on the tray (120). After dispensing the first connectorized end (40a) to the hub (20), an optical splitter (70, 130, 140) can be mounted to the tray (120). The splitter (26, 70, 130, 140, 306) has output adapters at which patch cords (50) can be inserted to connect subscribers to the system . The fiber distribution hub can use the same format of splitters (26, 70, 130, 140, 306). Other distributed splitter systems are provided with splicing and/or adding of splitters as needed.

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PN	- US2015334476 A1 20151119
PNFP	- US9414137 B2 20160809
PR	- US201414486453 20140915; US201113086909 20110414; US20100324284P 20100414
AP	- US201414486453 20140915
DT	- **
CT	- R141 (A1) US5682256 A 19971028 [] (MOTLEY ANDREW JAMES [GB], et al); US6895185 B1 20050517 [] (CHUNG YUN CHUR [KR], et al); US2008008437 A1 20080110 [] (REAGAN RANDY [US], et al); US2008063397 A1 20080313 [] (HU JUNQIANG [US], et al); US7565080 B2 20090721 [] (MICKELSSON HANS [SE], et al); US2010021164 A1 20100128 [] (LUK TOM [CA], et al); US8649649 B2 20140211 [] (SMITH TREVOR D [US], et al) - STSE (B2) US5682256 A 19971028 [] (MOTLEY ANDREW JAMES [GB], et al); US6895185 B1 20050517 [] (CHUNG YUN CHUR [KR], et al); US7565080 B2 20090721 [] (MICKELSSON HANS [SE], et al); US8649649 B2 20140211 [] (SMITH TREVOR D [US], et al); US2008008437 A1 20080110 [] (REAGAN RANDY [US], et al); US2008063397 A1 20080313 [] (HU JUNQIANG [US], et al); US2010021164 A1 20100128 [] (LUK TOM [CA], et al)
CCI	- G02B6/483 ; H04Q11/0067
CCA	- G02B6/4457 ; H04Q2011/009 ; H04W88/085
CI	- G02B6/483 (EP, US)

	- H04B10/25753 (US)
	- H04B10/807 (US)
	- H04Q11/0067 (EP, US)
CA	- G02B6/4457 (EP, US)
	- H04Q2011/009 (EP, US)
	- H04W88/085 (EP, US)
PA	- (A1)
	ADC TELECOMMUNICATIONS INC [US]
	- (B2)
	ADC TELECOMMUNICATIONS INC [US]; COMMScope TECHNOLOGIES LLC [US]
TI	- (A1)
	METHODS AND SYSTEMS FOR DISTRIBUTING FIBER OPTIC TELECOMMUNICATION SERVICES TO LOCAL AREAS AND FOR SUPPORTING DISTRIBUTED ANTENNA SYSTEMS
	- (B2)
	Methods and systems for distributing fiber optic telecommunication services to local areas and for supporting distributed antenna systems
AB	- (A1 B2)
	A fiber optic network includes a fiber distribution hub including at least one splitter and a termination field; a plurality of drop terminals optically connected to the fiber distribution hub by a plurality of distribution cables; and a distributed antenna system (DAS). The DAS includes a base station and a plurality of antenna nodes. The base station is optically connected to the fiber distribution hub and the antenna nodes are optically connected to the drop terminals. Example splitters include a passive optical power splitter and a passive optical wavelength splitter . Signals from a central office can be routed through the passive optical power splitter before being routed to subscriber locations optically connected to the drop terminals. Signals from the base station can be routed through the wavelength splitter before being routed to the antenna nodes.

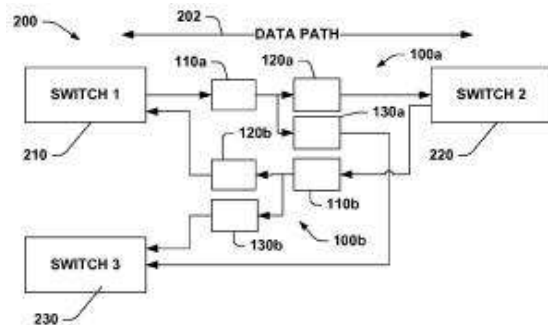
38/140 © EPODOC / EPO

PN	- WO2015153579 A1 20151008
PR	- US201461975414P 20140404
AP	- WO2015US23545 20150331
DT	- **
CT	- [KR] ISR (A1)
	US2012191997 A1 20120726 [Y] (MILLER FREDERICK W [US])
	[Y] 1-20
	* See claims 1, 11. *;
	US2004223769 A1 20041111 [Y] (HOSHIDA TAKESHI [US])
	[Y] 1-20
	* See claims 3, 13. *;
	US2014023312 A1 20140123 [Y] (SHANG ALAIN ZHI [US], et al)
	[Y] 4-7, 13-14
	* See claim 1. *;
	US2013279856 A1 20131024 [Y] (BODUCH MARK E [US], et al)
	[Y] 9-12
	* See paragraphs [0027]-[0030]. *;
	KR20130009134 A 20130123 [A] (LUXPERT TECHNOLOGIES CO LTD [KR])
	[A] 1-20
	* See claim 1 and figure 1. *
CCI	- G02B6/3897 ; G02B6/4246 ; G02B6/4292 ; H04B10/27
CCA	- G02B6/3825
CI	- G02B6/3897 (EP, US)
	- G02B6/4246 (EP, US)
	- G02B6/4292 (EP, US)
	- G02B6/43 (US)

- H04B10/2504 (US)
- H04B10/27 (EP, US)
- CA - G02B6/3825 (EP, US)
- PA - ADC TELECOMMUNICATIONS INC [US]; TYCO ELECTRONICS CORP [US]
- TI - OPTICAL **SPLITTER**
- AB - A **fiber optic tap system** includes a first receiver module having an input port configured to receive an optical fiber. The first receiver module is operable to convert a received optical signal to an electrical signal. A first transmitter module is coupled to receive the electrical signal from the first receiver module and convert the received electrical signal to an optical signal. The first transmitter module has an output port for outputting the optical signal. A first tap module is coupled to receive the electrical signal from the first receiver module.

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- PN - [US2015288449](#) A1 20151008
- PNFP - US10014942 B2 20180703
- PR - US201514676212
20150401; US201461975414P 20140404
- AP - US201514676212 20150401
- DT - *, Rep
- CT - || R141 (A1)
[US2012191997](#) A1 20120726 [] (MILLER FREDERICK W [US]);
[US2004223769](#) A1 20041111 [] (HOSHIDA TAKESHI [US]);
[US5724363](#) A 19980303 [] (BREYA EDWARD F [US]);
[US2010232757](#) A1 20100916 [] (SHIROSHITA HIROMICHI [JP]);
[US2014023312](#) A1 20140123 [] (SHANG ALAIN ZHI [US], et al);
[US2013279856](#) A1 20131024 [] (BODUCH MARK E [US], et al);
[US2001055148](#) A1 20011227 [] (KIKUCHI HIDEYUKI [JP], et al)
- || STSE (B2)
[US5724363](#) A 19980303 [] (BREYA EDWARD F [US]);
[US2001055148](#) A1 20011227 [] (KIKUCHI HIDEYUKI [JP], et al);
[US2004223769](#) A1 20041111 [] (HOSHIDA TAKESHI [US]);
[US2010232757](#) A1 20100916 [] (SHIROSHITA HIROMICHI [JP]);
[US2012191997](#) A1 20120726 [] (MILLER FREDERICK W [US]);
[US2013279856](#) A1 20131024 [] (BODUCH MARK E [US], et al);
[US2014023312](#) A1 20140123 [] (SHANG ALAIN ZHI [US], et al)
- CCI - [G02B6/3897](#) ; [G02B6/4246](#) ;
[G02B6/4292](#) ; [H04B10/27](#)
- CCA - [G02B6/3825](#)
- CI - G02B6/3897 (EP, US)
- G02B6/4246 (EP, US)
- G02B6/4292 (EP, US)



	] (CORMIER ERIC [FR], et al); US2014126062 A1 20140508 [] (HEO YOUNG SOON [KR], et al); US2014251411 A1 20140911 [] (GANTI SURYAPRAKASH [US], et al)
CCI	- A61N5/0616 ; F24S23/00 ; F24S50/20 ; G02B19/0042 ; G02B27/1006 ; H01L31/0549
CCA	- A61N2005/063 ; A61N2005/0657 ; A61N2005/0661 ; A61N2005/0665 ; F21S11/005 ; F21S11/007 ; F24S23/10 ; F24S23/12 ; F24S23/30 ; Y02E10/44 ; Y02E10/47 ; Y02E10/52
CI	- A61N5/0616 (EP, US) - F24S23/00 (EP, US) - F24S50/20 (EP, US) - G02B19/0042 (EP, US) - G02B27/1006 (EP, US) - H01L31/0549 (EP, US)
CA	- A61N2005/063 (EP, US) - A61N2005/0657 (EP, US) - A61N2005/0661 (EP, US) - A61N2005/0665 (EP, US) - F21S11/005 (EP, US) - F21S11/007 (EP, US) - F24S23/10 (EP, US) - F24S23/12 (EP, US) - F24S23/30 (EP, US) - Y02E10/44 (EP, US) - Y02E10/47 (EP, US) - Y02E10/52 (EP, US)
PA	- (A1) SHENHAV YARON [IL] - (B2) SHENHAV YARON [IL]; SOL COLD LTD [IL]
TI	- (A1) Electromagnetic Radiation Spreading for Direct Indoor Uses - (B2) Electromagnetic radiation spreading for direct indoor uses
AB	- (A1 B2) A system and method for converting the sun's electromagnetic radiation to work, where the system collects the radiation with at least first one lens or mirror. Splitting means split the radiation spectrum, preferably using prism, set of prisms, diffraction grating, or set of beam splitters. Second one lens or mirror is configured to collect the radiation separately for each wavelength range. At least one fiber optic cable is configured to transfer the radiation to electromagnetically or electrically

operated appliance, device or machine.

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PN - [US2015250548](#) A1 20150910

PNFP - US9339347 B2 20160517

PR - US201514714580 20150518; US201313892223 20130510; US20090415795
20090331; US20060537241 20060929; US20050755108P 20051230; US20050755157P
20051230; US20070958772 20071218; US20070864974 20070929; US20060553303
20061026; US20050093372 20050330

AP - US201514714580 20150518

DT - **

CT - || R141 (A1)
[US5838437](#) A 19981117 [] (MILLER CALVIN M [US], et al);
[US2005105902](#) A1 20050519 [] (ALAVIE TINO [US], et al);
[US2007058897](#) A1 20070315 [] (YONG JAE C [KR], et al);
[US2007060847](#) A1 20070315 [] (LEO GIOVANNI [CH], et al);
[US2007156019](#) A1 20070705 [] (LARKIN DAVID Q [US], et al);
[US2007265503](#) A1 20071115 [] (SCHLESINGER RANDALL L [US], et al);
[US2008294144](#) A1 20081127 [] (LEO GIOVANNI [CH], et al);
[US2011087112](#) A1 20110414 [] (LEO GIOVANNI [CH], et al);
[US8157789](#) B2 20120417 [] (LEO GIOVANNI [CH], et al);
[US2013016360](#) A1 20130117 [] (ENSHER JASON [US], et al);
[US8622935](#) B1 20140107 [] (LEO GIOVANNI [CH])
- || STSE (B2)
[US5838437](#) A 19981117 [] (MILLER CALVIN M [US], et al);
[US8157789](#) B2 20120417 [] (LEO GIOVANNI [CH], et al);
[US8622935](#) B1 20140107 [] (LEO GIOVANNI [CH]);
[US2005105902](#) A1 20050519 [] (ALAVIE TINO [US], et al);
[US2007058897](#) A1 20070315 [] (YONG JAE C [KR], et al);
[US2007060847](#) A1 20070315 [] (LEO GIOVANNI [CH], et al);
[US2007156019](#) A1 20070705 [] (LARKIN DAVID Q [US], et al);
[US2007265503](#) A1 20071115 [] (SCHLESINGER RANDALL L [US], et al);
[US2008294144](#) A1 20081127 [] (LEO GIOVANNI [CH], et al);
[US2011087112](#) A1 20110414 [] (LEO GIOVANNI [CH], et al);
[US2013016360](#) A1 20130117 [] (ENSHER JASON [US], et al)

CCI - [A61B34/30](#)

CCA - [A61B2017/00477](#) ; [A61B2034/305](#) ; [A61B2090/064](#) ; [Y10T74/20335](#)

CI - A61B18/00 (US)
- A61B34/20 (US)
- A61B34/30 (EP, KR, US)
- G01B11/16 (US)
- G01L1/242 (US)
- G02B6/12019 (US)
- G02B6/264 (US)
- G02B6/32 (US)

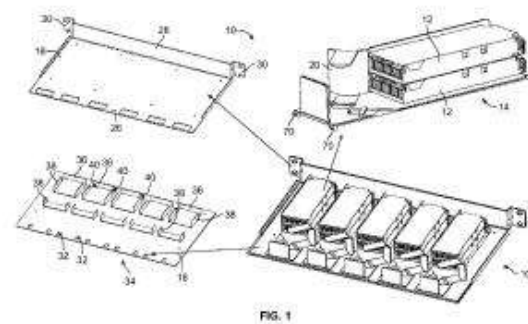
CA - A61B2017/00477 (EP, KR, US)
- A61B2018/2244 (KR)
- A61B2018/2266 (KR)
- A61B2034/2061 (US)
- A61B2034/305 (EP, KR, US)
- A61B2090/064 (EP, KR, US)
- A61B2562/0266 (US)
- Y10T74/20335 (EP, US)

PA - (A1)

	INTUITIVE SURGICAL INC [US]
	- (B2)
	INTUITIVE SURGICAL OPERATIONS [US]
TI	- (A1)
	OPTIC FIBER CONNECTION FOR A FORCE SENSING INSTRUMENT
	- (B2)
	Optic fiber connection for a force sensing instrument
AB	- (A1 B2)
	In one embodiment, a surgical instrument includes a housing linkable with a manipulator arm of a robotic surgical system , a shaft operably coupled to the housing, a force transducer on a distal end of the shaft, and a plurality of fiber optic strain gauges on the force transducer. In one example, the plurality of strain gauges are operably coupled to a fiber optic splitter or an arrayed waveguide grating (AWG) multiplexer. A fiber optic connector is operably coupled to the fiber optic splitter or the AWG multiplexer. A wrist joint is operably coupled to a distal end of the force transducer, and an end effector is operably coupled to the wrist joint. In another embodiment, a robotic surgical manipulator includes a base link operably coupled to a distal end of a manipulator positioning system , and a distal link movably coupled to the base link, wherein the distal link includes an instrument interface and a fiber optic connector optically linkable to a surgical instrument. A method of passing data between an instrument and a manipulator via optical connectors is also provided.

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PN	- WO2016005291 A1 20160114
PR	- US201462021521P 20140707; US201462084337P 20141125
AP	- WO2015EP65258 20150703
DT	- *, Rep
CT	- [EP] ISR (A1)
	US2008298763 A1 00000000
	[XAY] (APPENZELLER MARK DAVID [US] ET AL)
	[X] 1,3,10,11,18
	* paragraph [0018] - paragraph [0029];
	figures 1-5 *
	[A] 8,12,13
	[Y] 6,7,15,16;
	US5511144 A 00000000 [XAY] (HAWKINS PAUL D [US] ET AL)
	[X] 1,2,4,5,9,11,14,17
	* column 1, line 64 - column 2, line 58; figures 1-6 *
	[A] 8,12,13
	[Y] 6,7,15,16;
	US2013094827 A1 00000000
	[X] (HAATAJA TIMOTHY [US])
	[X] 1,11
	* paragraph [0116] - paragraph [0151];
	figures 59-76 *;
	US2005135767 A1 00000000 [A] (DIAZ RANDALL J [US] ET AL)
	[A] 1-18
	* paragraph [0033]; figure 3d *;
	US6388891 B1 00000000
	[A] (FALKENBERG DEAN R [US] ET AL)
	[A] 1-18
	* column 3, line 53 - column 4, line 29; figures 1-3 *;



[US2002136520](#) A1 00000000 [A] (JANUS NEALA [US] ET AL)
 [A] 1-18
 * paragraph [0012] - paragraph [0014];
 figures 1-4 *;
[US2008219632](#) A1 00000000 [A] (SMITH TREVOR D [US] ET AL)
 [A] 1-18
 * paragraph [0021] - paragraph [0023];
 figures 1-6 *;
[US2010316345](#) A1 00000000
 [A] (WENTWORTH MICHAEL [US] ET AL)
 [A] 1-18
 * paragraph [0018] - paragraph [0028];
 figures 1-11 *

- CCI - [G02B6/4446](#) ; [G02B6/4453](#)
- CI - G02B6/4446 (EP)
 - G02B6/4453 (EP)
- PA - TYCO ELECTRONICS RAYCHEM BVBA [BE];
 ADC CZECH REPUBLIC SRO [CZ]
- TI - MODULAR TELECOMMUNICATIONS
 MOUNTING **SYSTEM** WITH CABLE
 MANAGEMENT
- AB - A telecommunications modular
 mounting **system** (10/100/300/400)
 includes a frame (16/116/316)
 configured to be mounted to a
 telecommunications rack and at least
 one holder (14/114/214/314/414)
 configured to be mounted to the frame
 (16/116/316). The holder
 (14/114/214/314/414) is configured to
 receive a **fiber optic** device (12) in the
 form of a **fiber optic splitter**, wherein the
 at least one holder
 (14/114/214/314/414) includes an
 attachment structure (44/144) for
 receiving the **fiber optic** device (12). The
 attachment structure (44/144/244)
 defines at least a part of a slide lock
 (64/164) for slidably receiving the **fiber
 optic** device (12), the slide lock (64/164)
 defined at least in part by dovetail
 structures (66, 68/168) formed by
 the **fiber optic** device (12) and the
 attachment structure (44/144/244) of the
 holder (14/114/214/314/414). The at
 least one holder (14/114/214/314/414)
 is removably mounted to the frame
 (16/116/316).

PN - [WO2015193384](#) A2 20151223

PNFP - WO2015193384 A3 20160324

PR - US201462013223P
20140617; US201462017620P
20140626; US201462084416P 20141125

AP - WO2015EP63620 20150617

DT - *; Rep

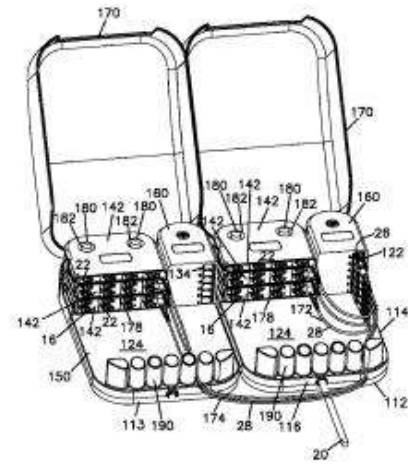
CT - | EP | ISR (A3)
[XP002744968](#) A[A];
[US2009324187](#) A1 20091231 [XYI] (WAKILEH
GEORGE I [US], et al)
[X] 1-5,7,18
* the whole document *
[Y] 9-13,26-38
[I] 6,14,17,19;
[US2007189691](#) A1 20070816 [X] (BARTH
MICHAEL [US], et al)
[X] 1-9,16
* the whole document *;
[US2008031585](#) A1 20080207 [X] (SOLHEID
JAMES J [US], et al)
[X] 1,2,4,7,15,16
* the whole document *;
[US2007147765](#) A1 20070628 [Y] (GNIADK
JEFF [US], et al)
[Y] 9-13,26-33
* the whole document *;
[WO2010040256](#) A1 20100415 [X] (CORNING
CABLE SYS LLC [US], et al)
[X] 1-9,15,16
* the whole document *;
[CN203101690U](#) U 20130731 [XYI] (SHENZHEN
KEXIN COMM TECHNOLOGY)
[X] 20-22,24
* abstract *
[Y] 34-38
[I] 23,25;
[JP2007121398](#) A 20070517 [A] (NIPPON
TELEGRAPH & TELEPHONE, et al)
[A] 20-25,34-38
* the whole document *

CTNP - | EP | ISR (A3)
[A] - AFLGlobal, "LGX Optical Coupler
Modules", (20120517), page 1, URL: <https://web.archive.org/web/20120517022939/http://www.aflglobal.com/Products/Fiber-Inside-Plant/Couplers-Splitters-and-Multiplexers/Couplers-Splitters/Optical-Coupler-Modules.aspx>, (20150916),
XP002744968
[A] 1,26
* the whole document *

CCI - [G02B6/3897](#) ; [G02B6/445](#) ; [G02B6/4471](#)

CI - G02B6/3897 (EP, US)
- G02B6/445 (EP, CN, US)
- G02B6/4457 (US)

FIG. 1



- G02B6/4471 (EP, US)
- CA - G02B6/3897 (CN)
- G02B6/4471 (CN)
- PA - (A2 A3)
- TYCO ELECTRONICS RAYCHEM BVBA [BE]; ADC
- CZECH REPUBLIC SRO [CZ]
- TI - (A2 A3)
- CABLE DISTRIBUTION **SYSTEM**
- AB - (A2)
- A cable distribution **system** is provided wherein a feeder cable with one or more feeder fibers is received by a distribution device or box. The feeder fibers are terminated to a **fiber optic** connector. Customers can directly connect to the connectors of the feeder cable through an adapter and a mating connector for a point-to-point connection. Alternatively, a **splitter** input can be connected to one or more of the connectors of the feeder cable, such as through a pigtail extending from the **splitter**, wherein the **splitter** splits the signal as desired into a plurality of outputs. The outputs of the **splitters** can be in the form of connectors or adapters. Customers can connect to the **splitter** outputs through a mating connector (and an adapter if needed).
- (A3)
- A cable distribution **system** is provided wherein a feeder cable (20) with one or more feeder fibers is received by a distribution device or box. The feeder fibers are terminated to a **fiber optic** connector. Customers can directly connect to the connectors of the feeder cable through an adapter and a mating connector for a point-to-point connection. Alternatively, a **splitter** (142) input can be connected to one or more of the connectors of the feeder cable, such as through a pigtail extending from the **splitter**, wherein the **splitter** splits the signal as desired into a plurality of outputs. The outputs of the **splitters** can be in the form of connectors or adapters. Customers can connect to the **splitter** outputs through a mating connector (and an adapter if needed).

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- PN - [EA201401315](#) A1 20150529
- PNFP - EA026181 B1 20170331
- PR - RU20120132132 20120727; WO2012RU01096 20121221
- AP - EA20140001315 20121221
- DT - I
- CT - || STSE (B1)
- [WO2011080166](#) A1 20110707 [] (WATERFORD INST TECHNOLOGY [IE], et al);
- [US2010103426](#) A1 20100429 [] (KIM CHANG-SEOK [KR], et al);

[WO2011141829](#) A1 20111117 [] (KONINKL PHILIPS ELECTRONICS NV [NL], et al);
[RU2413259](#) C1 20110227 [] (INST AVTOMATIKI I PROTSESSOV UPRAVLENIIA DAL
NEVOSTOCHNOGO OTDEL ROSSIJSKOJ AKADEMII NAUK STATUS G U [RU]);
[US6449047](#) B1 20020910 [] (BAO YUFEI [US], et al)

CCI - [G01D5/35316](#)
CCA - [G02B6/02057](#)
CI - G01D5/35316 (EP)
CA - G02B6/02057 (EP)
PA - (B1)
BAUMAN MOSCOW STATE TECHNICAL UNIV (BMSTU) [RU]
TI - (B1)
DEVICE FOR OPTICAL IDENTIFICATION OF MEASUREMENT CHANNELS OF A BUILT-IN NON-DESTRUCTIVE CONTROL **SYSTEM** BASED ON **FIBER-OPTIC** BRAGG GRATINGS
AB - (B1)
The invention relates to devices for registering signals from a set of **fiber-optic** Bragg gratings in a built-in non-destructive object control **system**. The device for optical identification of measurement channels in a built-in non-destructive control **system** comprises a source of optical radiation, a tripolar optical **splitter**, a reference Bragg grating having a known reflected radiation wavelength, several measurement channels with fiber Bragg gratings located on the object being tested, a **system** for insulating the reference Bragg grating from external disturbing effects, a photodetector device and a unit for registering and converting signals, said unit being connected to a computer. One addressable reference Bragg gratings having non-repeating reflected radiation wavelengths is built into each measurement channel. All reference gratings are placed in a body insulated for protection against external disturbing effects. A superluminescent diode (SLD) is used as a continuous broad-band source of optical radiation. The device further includes an optical insulator and an optical switch, the optical insulator being installed between the output of the source and the input pole of the tripolar optical **splitter**, one output pole of which is connected to the common input of the optical switch. Each connectable output of the optical switch is connected to its own measurement channel. The other output pole of the **splitter** is connected to an input of the photodetector device and of the signal registering and converting unit. The technical result is simultaneous significant simplification of the device circuit with warranted assurance of reliability of identification (addressing) of measurement channels connected to the computer, and an increase in dynamic range of optical signals being measured.

45/140 © EPODOC / EPO

PN - [CA2872800](#) A1 20031106
PNFP - CA2872800 C 20170711
PR - US20020128820 20020424; CA20032483417 20030423
AP - CA20032872800 20030423
DT - I
CCI - [G02B6/32](#) ; [G02B6/3807](#) ; [G02B6/385](#) ; [G02B6/3861](#) ; [G02B6/3866](#)
CCA - [G02B6/3837](#) ; [G02B6/3845](#) ; [G02B6/3893](#)
CI - G02B6/32 (EP)
- G02B6/3807 (EP)
- G02B6/385 (EP)
- G02B6/3861 (EP)
- G02B6/3866 (EP)
CA - G02B6/3837 (EP)
- G02B6/3845 (EP)
- G02B6/3893 (EP)
PA - (A1)
PANGRAC & ASSOCIATES DEV INC [US]
- (C)

PANGRAC & ASS DEV INC [US]

TI - (A1 C)
FIBEROPTIC CONNECTOR FOR A SEGMENTED FTTH OPTICAL NETWORK

AB - (A1 C)
A **fiber optic** connector (200) including a body (201) forming a fiber insertion path (207, 213) and an optical lens (220). The fiber insertion path receives an optical fiber and extends within the body to an internal end. The lens (220) includes a first concave surface (219) formed at the internal end of the fiber channel (215) and a second concave surface (221) formed on an external side of the body. The first and second concave surfaces of the lens are operative to direct light towards each other to enable optical communications between an inserted optical fiber and a connected second connector (400). Multiple connectors may be incorporated within the same body. A fiber tip cleaner (217) and fiber bonding **system** (223, 225, 227) may be included within the insertion path. An optical block incorporating the connectors may be configured as a **splitter** and/or combiner. The connectors and optical blocks may be used to implement a segmented FTTH optical network.

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PN - [CN203965043U](#) U 20141126
PR - CN201420384901U 20140711
AP - CN201420384901U 20140711
DT - I
PA - GUANGZHOU MICRO SHOT TECHNOLOGY CO LTD
TI - Micro-spectral imaging device
AB - The utility model provides a micro-spectral imaging device which includes an optical C interface, a spectroscopic device, an optical condensation **system** and a CCD condensation **system**. The optical C interface is located at the lower end of the spectroscopic device. A first optical channel for light to pass through is further disposed in the spectroscopic device. A beam **splitter** prism is disposed on the first optical channel. The bottom end of the optical condensation **system** is connected with the spectroscopic device. The CCD condensation **system** is installed at a side of the spectroscopic device and forms an included angle of 30-60 degrees with the spectroscopic device. According to the utility model, the arrangement of the C interface at the bottom end enables the micro-spectral imaging device to be connected to various types of microscopes, the optical interface also allows the micro-spectral imaging device to match various types of **fiber optic** spectrometers, and the matching compatibility is high; and a first lens group adopts lenses capable of allowing visible light to light of near-infrared band to pass through, so that the **fiber optic** spectrometers connected through the optical interface can achieve spectral acquisition of visible light to the near-infrared band and the range of observation is expanded.

47/140 © EPODOC / EPO

PN - [US2014193147](#) A1 20140710
PNFP - US9608720 B2 20170328
PR - US201314066084 20131029; US201261719787P 20121029
AP - US201314066084 20131029
DT - **
CT - || R141 (A1)
[US5241613](#) A 00000000 [];
[US6498888](#) B1 00000000 [];
[US2005207710](#) A1 00000000 [];
[US2006285807](#) A1 00000000 [];
[US2008019646](#) A1 00000000 [];
[US2009268197](#) A1 00000000 [];
[US2009269054](#) A1 00000000 [];
[US7636507](#) B2 00000000 [];
[US2010226615](#) A1 00000000 [];

[US7809235](#) B2 00000000 [];
[US2011019966](#) A1 00000000 [];
[US2011293277](#) A1 00000000 [];
[US2013004130](#) A1 00000000 [];
[US8374476](#) B2 00000000 [];
[US8482725](#) B2 00000000 [];
[US2014050451](#) A1 00000000 [];
[US2015093091](#) A1 00000000 [];
[US6456370](#) B1 00000000 [];
[US2002140926](#) A1 00000000 [];
[US2007147741](#) A1 00000000 [];
[US7329049](#) B2 00000000 [];
[US2009115999](#) A1 00000000 [];
[US7956992](#) B2 00000000 [];
[US2012045205](#) A1 00000000 [];
[US8588571](#) B1 00000000 [];
[US8687957](#) B2 00000000 [];
[US9016953](#) B2 00000000 [];
[US6454465](#) B1 00000000 [];
[US2006008231](#) A1 00000000 [];
[US2006263029](#) A1 00000000 [];
[US2008152292](#) A1 00000000 [];
[US2008297773](#) A1 00000000 [];
[US2009110359](#) A1 00000000 [];
[US2009208177](#) A1 00000000 [];
[US2010183276](#) A1 00000000 [];
[US2011311226](#) A1 00000000 [];
[US8711341](#) B2 00000000 [];
[US9276673](#) B2 00000000 [];
[US2016178851](#) A1 00000000 []

- || STSE (B2)

[US5241613](#) A 00000000 [];
[US6454465](#) B1 00000000 [];
[US6456370](#) B1 00000000 [];
[US6498888](#) B1 00000000 [];
[US7329049](#) B2 00000000 [];
[US7636507](#) B2 00000000 [];
[US7809235](#) B2 00000000 [];
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[US8687957](#) B2 00000000 [];
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[US9016953](#) B2 00000000 [];
[US9276673](#) B2 00000000 [];
[US2002140926](#) A1 00000000 [];
[US2005207710](#) A1 00000000 [];
[US2006008231](#) A1 00000000 [];
[US2006263029](#) A1 00000000 [];
[US2006285807](#) A1 00000000 [];
[US2007147741](#) A1 00000000 [];
[US2008019646](#) A1 00000000 [];
[US2008152292](#) A1 00000000 [];
[US2008297773](#) A1 00000000 [];
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[US2009115999](#) A1 00000000 [];
[US2009208177](#) A1 00000000 [];
[US2009268197](#) A1 00000000 []

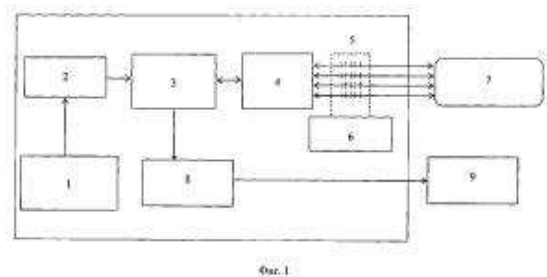
CCI	- H04B10/071
CCA	- G02B6/3846
CI	- G02B6/28 (US) - H04B10/071 (EP, US) - H04B10/077 (US)
CA	- G02B6/3502 (US) - G02B6/3846 (EP, US) - G02B6/3849 (US) - G02B6/4441 (US) - H04B10/073 (US)
PA	- (A1) ADC TELECOMMUNICATIONS INC [US] - (B2) ADC TELECOMMUNICATIONS INC [US]; COMMSCOPE TECHNOLOGIES LLC [US]
TI	- (A1) System for Testing Passive Optical Lines - (B2) System for testing passive optical lines
AB	- (A1 B2) An optical splitter assembly including a splitter housing, a passive optical positioned within the splitter housing and a plurality of splitter output pig outwardly from the splitter housing. Each of the splitter output pigtails inc fiber structure having a first end optically coupled to the passive optical p second end on which a fiber optic connector is mounted. Each of the splitter having a different test characteristic such that the splitter output pigtails o identified during optical network testing.

[WO2011080166](#) A1 20110707
[A] (WATERFORD INST TECHNOLOGY [IE],
et al);

[US2010103426](#) A1 20100429 [A] (KIM
CHANG-SEOK [KR], et al);

[WO2011141829](#) A1 20111117
[A] (KONINKL PHILIPS ELECTRONICS NV
[NL], et al);

[RU2413259](#) C1 20110227 [A] (INST
AVTOMATIKI I PROTSESOV UPRAVLENIIA
DAL NEVOSTOCHNOGO OTDEL ROSSIJSKO



	AKADEMII NAUK STATUS G U [RU]); US6449047 B1 20020910 [A] (BAO YUFEI [US], et al)
CCI	- G01D5/35316
CCA	- G02B6/02057
CI	- G01D5/35316 (EP)
CA	- G02B6/02057 (EP)
PA	- BAUMAN MOSCOW STATE TECHNICAL UNIVERSITY BMSTU [RU]; KARASIK VALERIY EFIMOVICH [RU]; PNIOV ALEKSEY BORISOVICH [RU]; LAZAREV VLADIMIR ALEKSEYEVICH [RU]; SHELESTOV DMITRIY ALEKSANDROVICH [RU]; NELIUB VLADIMIR ALEKSANDROVICH [RU]; BUYANOV IVAN ANDREYEVICH [RU]
TI	- DEVICE FOR THE OPTICAL IDENTIFICATION OF OPTICAL CHANNELS
AB	- The invention relates to measuring device components having optical measurement means for registering signals from a set of fiber-optic Bragg gratings of a built-in non-destructive object testing system . The aim is to simplify the layout of the device while guaranteeing the reliability of identifying measurement channels which can be connected to a computer, as well as to increase the dynamic range of measurable optical signals. The device for optical identification comprises a source of optical radiation, a tripolar optical splitter , a reference Bragg grating having a known reflected radiation wavelength, measurement channels with fiber Bragg gratings located on the object being tested, a system for insulating the reference Bragg grating from external effects, a photoreceiving device and a unit for registering and converting signals, said unit being connected to a computer. Addressable reference Bragg gratings having non-repeating optical radiation wavelengths are built into each measurement channel. A superluminescent diode is used as the source of optical radiation. An optical insulator is installed between the output of the source and the input pole of the tripolar optical splitter , one output pole of which is connected to the common input of an optical switch. The output of the optical switch is connected to its own measurement channel. The output pole of the tripolar optical splitter is connected to an input of the photoreceiving device and of the unit for registering and converting signals.

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PN - [CN103278087](#) A 20130904

PNFP - CN103278087B B 20160113

PR - CN201310172623 20130510

AP - CN201310172623 20130510

DT - I

CT - || STSE (A)

[US2005007599](#) A1 20050113 [A] (DEGROOT PETER J [US])

[A] 1-2

* 全文 *;

[CN102829903](#) A 00000000 [Y]

[Y] 1

* 说明书第0009-0039段, 附图1 *;

[CN101915542](#) A 00000000 [Y]

[Y] 1

* 说明书第0006-0008段, 附图1 *;

[CN102022977](#) A 00000000 [A]

[A] 1-2

* 全文 *

CTNP - || STSE (A)

[A] - 王春晖 等, "2 μm 激光外差干涉系统中大口径f- θ 扫描系统的光学设计", 《中国激光》, (20111231), vol. 38, no. 12

[A] 1-2

* 全文 *

PA - (A)

BEIJING RES INST SPATIAL MECHANICAL & ELECTRICAL TECHNOLOGY

TI - (A)

Micro-electro-mechanical- **system** (MEMS) scanning 2 μm laser heterodyne interferometer optics **system** and adjustment method thereof

AB - (A)

The invention discloses a micro-electro-mechanical-**system** (MEMS) scanning 2 μm laser heterodyne interferometer optics **system** and an adjustment method thereof. The **system** comprises a 2 μm **fiber optic** laser, a **fiber optic** beam **splitter**, a Green lens, a first lens, a second lens, a polarization beam-**splitter** prism, a $\lambda/4$ wave plate, an MEMS array lens, an F-Theta lens, a reflector, a **fiber optic** receiving collimator, a **fiber optic** beam combiner, an online polarizer, a photoelectric detector, an oscilloscope, an acousto-optic frequency shifter and an attenuator. During a debugging process, by adjusting the polarization beam-**splitter** prism, the first lens, the second lens and the MEMS array lens, positions and postures of all devices are determined, and finally, a time-domain curve and a frequency-domain curve displayed by the oscilloscope respectively correspond to external drive signal frequencies of the acousto-optic frequency shifter. According to the MEMS scanning 2 μm laser heterodyne interferometer optics **system** and the adjustment method thereof disclosed by the invention, the problem that the laser test signal coupling efficiency is low under different modes of the large-diameter MEMS scanning laser heterodyne interferometer **system** is solved, and the **system** stability and the detection sensitivity of the heterodyne interferometer **system** are improved.

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PN - [US2013163984](#) A1 20130627

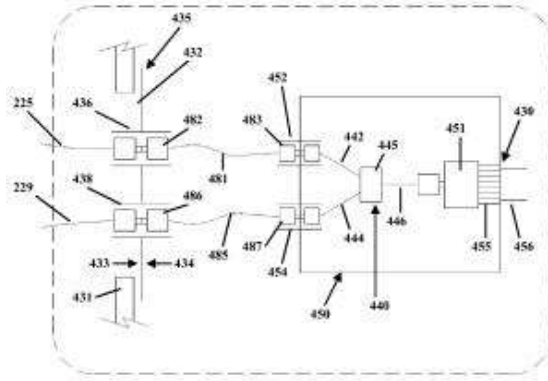
PNFP - US10107965 B2 20181023

PR - US201213720505
20121219; US201161579334P 20111222

AP - US201213720505 20121219

DT - *, Rep

CT - || R141 (A1)
[US2014105539](#) A1 20140417 [] (CONNER MARK EDWARD [US], et al);
[US2013216187](#) A1 20130822 [] (DOWLING DOUGLAS FERRIS [US]);
[US2011274403](#) A1 20111110 [] (LEBLANC THOMAS G [US], et al);
[US2011222831](#) A1 20110915 [] (CAO SONGHUA [CN], et al);
[US2011158598](#) A1 20110630 [] (LEBLANC THOMAS G [US], et al);
[US2011091170](#) A1 20110421 [] (BRAN DE LEON OSCAR FERNANDO [US], et al);
[US2011026894](#) A1 20110203 [] (RUDENICK PAULA [US], et al);
[US2010329624](#) A1 20101230 [] (ZHOU JUNSHENG [CN], et al);
[US2010226654](#) A1 20100909 [] (SMITH TREVOR D [US], et al);
[US2010142888](#) A1 20100610 [] (GRAFF LUDWIG C [US], et al);
[US2009317047](#) A1 20091224 [] (SMITH TREVOR D [US], et al);
[US2007031100](#) A1 20070208 [] (GARCIA CESAR G [US], et al);
[US2006008231](#) A1 20060112 [] (REAGAN RANDY [US], et al);
[US2005105873](#) A1 20050519 [] (REAGAN RANDY [US], et al);
[US2003103750](#) A1 20030605 [] (LAPORTE RICHARD B [US], et al);
[US7546018](#) B2 20090609 [] (HENDRICKSON DANIEL [US], et al);
[US6256443](#) B1 20010703 [] (URUNO SHIGENORI [JP], et al);
[US5204921](#) A 19930420 [] (KANAI TSUNEO [US], et al);
[US4630886](#) A 19861223 [] (LAURIELLO PHILIP J J [US], et al);
[US2007274720](#) A1 20071129 [] (MENASCO HEYWARD E JR [US], et al);
[US2010098407](#) A1 20100422 [] (GOSWAMI SANJAY [US], et al);
[US6725303](#) B1 20040420 [] (HOGUTA KENNETH J [US], et al);
[US2011044693](#) A1 20110224 [] (KELLY BRADLEY GEORGE [CA], et al);
[US2013064508](#) A1 20130314 [] (KELLY SEAN PATRICK [US]);
[US2003185515](#) A1 20031002 [] (LUBKERT KENNETH H [US], et al);
[US2006029390](#) A1 20060209 []



] (SCHMUCK HARALD [DE], et al);
[US2009110359](#) A1 20090430 [] (SMITH
 TREVOR D [US], et al);
[US6483902](#) B1 20021119 [] (STEWART
 BRETT B [US], et al);
[US2004213234](#) A1 20041028 [] (KOCH
 CHRISTOPHER D [US], et al);
[US2011044693](#) A1 20110224 [] (KELLY
 BRADLEY GEORGE [CA], et al);
[US2010074267](#) A1 20100325 [] (LADD
 PATRICK [US]);
[US2009087181](#) A1 20090402 [] (GRAY
 BARRY CHARLES[US]);
[US2013148956](#) A1 20130613 []
] (KHOTIMSKY DENIS ANDREYEVICH [US],
 et al);
[US2008138063](#) A1 20080612 []
] (AKASAKA YOUICHI [US], et al)
 - || STSE (B2)
[US4630886](#) A 19861223 [] (LAURIELLO
 PHILIP J J [US], et al);
[US5204921](#) A 19930420 [] (KANAI
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[US6256443](#) B1 20010703 [] (URUNO
 SHIGENORI [JP], et al);
[US6483902](#) B1 20021119 [] (STEWART
 BRETT B [US], et al);
[US6725303](#) B1 20040420 [] (HOGUTA
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[US7546018](#) B2 20090609 []
] (HENDRICKSON DANIEL [US], et al);
[US2003103750](#) A1 20030605 []
] (LAPORTE RICHARD B [US], et al);
[US2003185515](#) A1 20031002 []
] (LUBKERT KENNETH H [US], et al);
[US2004213234](#) A1 20041028 [] (KOCH
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[US2005105873](#) A1 20050519 []
] (REAGAN RANDY [US], et al);
[US2006008231](#) A1 20060112 []
] (REAGAN RANDY [US], et al);
[US2006029390](#) A1 20060209 []
] (SCHMUCK HARALD [DE], et al);
[US2007031100](#) A1 20070208 [] (GARCIA
 CESAR G [US], et al);
[US2007274720](#) A1 20071129 []
] (MENASCO HEYWARD E JR [US], et al);
[US2008138063](#) A1 20080612 []
] (AKASAKA YOUICHI [US], et al);
[US2009087181](#) A1 20090402 [] (GRAY
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[US2009110359](#) A1 20090430 [] (SMITH
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[US2009317047](#) A1 20091224 [] (SMITH
 TREVOR D [US], et al);
[US2010074267](#) A1 20100325 [] (LADD
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[US2010098407](#) A1 20100422 []
] (GOSWAMI SANJAY [US], et al);

	US2010142888 A1 20100610 [] (GRAFF LUDWIG C [US], et al); US2010226654 A1 20100909 [] (SMITH TREVOR D [US], et al); US2010329624 A1 20101230 [] (ZHOU JUNSHENG [CN], et al); US2011026894 A1 20110203 [] (RUDENICK PAULA [US], et al); US2011044693 A1 20110224 [] (KELLY BRADLEY GEORGE [CA], et al); US2011091170 A1 20110421 [] (BRANDE LEON OSCAR FERNANDO [US], et al); US2011158598 A1 20110630 [] (LEBLANC THOMAS G [US], et al); US2011222831 A1 20110915 [] (CAO SONGHUA [CN], et al); US2011274403 A1 20111110 [] (LEBLANC THOMAS G [US], et al); US2013064508 A1 20130314 [] (KELLY SEAN PATRICK [US]); US2013148956 A1 20130613 [] (KHOTIMSKY DENIS ANDREYEVICH [US], et al); US2013216187 A1 20130822 [] (DOWLING DOUGLAS FERRIS [US]); US2014105539 A1 20140417 [] (CONNER MARK EDWARD [US], et al)
CCI	- H04B10/032
CI	- G02B6/28 (US) - H04B10/032 (EP, US) - H04B10/038 (US)
PA	- (A1) TYCO ELECTRONICS CORP [US]; TYCO ELECTRONICS CORP [US] - (B2) COMMScope TECHNOLOGIES LLC [US]
TI	- (A1) Fiber Optic Wall Plate with Redundancy System - (B2) Fiber optic wall plate with redundancy system
AB	- (A1 B2) An optical splitter/coupler may be disposed at a subscriber network access location to provide primary and back-up service to the subscriber network access location. The optical splitter/coupler includes first and second optical fibers that are optically coupled to a third optical fiber. The first and second optical fibers of the optical splitter/coupler are optically coupled to a service provider location. The third optical fiber is optically coupled to the subscriber network access location.

51/140 © EPODOC / EPO

PN - [US2013163915](#) A1 20130627

PNFP - US8781266 B2 20140715

PR - US201113336519 20111223

AP - US201113336519 20111223

DT - *, Rep

CT - || R141 (A1)
[US6114846](#) A 20000905 [
] (BOSELNANN THOMAS [DE], et al);
[US2003117126](#) A1 20030626 [
] (RAHMATIAN FARNOOSH [CA]);
[US2007278389](#) A1 20071206 [
] (AJGAONKAR MAHESH [US], et al);
[US2008101157](#) A1 20080501 [
] (RONNEKLEIV ERLAND [NO], et al);
[US7633285](#) B2 20091215 [
] (RAHMATIAN FARNOOSH [CA], et al);
[US7655900](#) B2 20100202 [] (KUROSAWA
 KIYOSHI [JP], et al);
[CH671638](#) A5 19890915 [] (BBC BROWN
 BOVERI & CIE);
[US5953121](#) A 19990914 [] (BOHNERT
 KLAUS [CH], et al);
[US6404503](#) B1 20020611 [] (SARDO
 UMBERTO [IT])

- || STSE (B2)
[US5953121](#) A 19990914 [] (BOHNERT
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[US6114846](#) A 20000905 [
] (BOSELNANN THOMAS [DE], et al);
[US6404503](#) B1 20020611 [] (SARDO
 UMBERTO [IT]);
[US7633285](#) B2 20091215 [
] (RAHMATIAN FARNOOSH [CA], et al);
[US7655900](#) B2 20100202 [] (KUROSAWA
 KIYOSHI [JP], et al);
[US2003117126](#) A1 20030626 [
] (RAHMATIAN FARNOOSH [CA]);
[US2007278389](#) A1 20071206 [
] (AJGAONKAR MAHESH [US], et al);
[US2008101157](#) A1 20080501 [
] (RONNEKLEIV ERLAND [NO], et al);
[CH671638](#) A5 19890915 [] (BBC BROWN
 BOVERI & CIE)

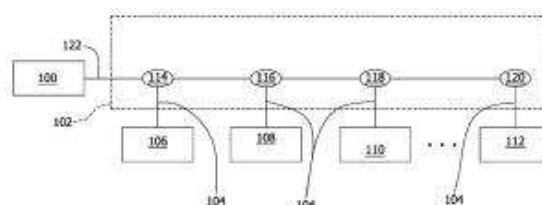
CCI - [G02B6/001](#)

CCA - [G02B6/0038](#) ; [G02B6/0046](#) ;
[G02B6/0078](#)

CI - G02B6/001 (EP)

CA - G02B6/0038 (EP)
 - G02B6/0046 (EP)
 - G02B6/0078 (EP)

PA - (A1)
 LEE BOON KWEE [US]; KOSTE GLEN PETER
 [US]; DEKATE SACHIN NARAHARI [US];
 WELCH VICTOR [US]



- (B2)
LEE BOON KWEE [US]; KOSTE GLEN PETER [US]; DEKATE SACHIN NARAHARI [US]; WELCH VICTOR [US]; GEN ELECTRIC [US]
- TI - (A1)
DISTRIBUTED, MULTIPLEXED **FIBER OPTIC** CURRENT TRANSDUCER USING OPTICAL POWER DIVISION
- (B2)
Distributed, multiplexed **fiber optic** current transducer using optical power division
- AB - (A1 B2)
A measurement **system** includes a broadband light source that outputs a broadband light, an optical **splitter** that divides the broadband light into a plurality of divided light beams and a plurality of optical sensors, each optical sensor configured to receive a single one of the divided light beams and measure an electrical parameter of a conductor.

52/140 © EPODOC / EPO

- PN - [ES1077394U](#) U 20120713
- PNFP - ES1077394Y Y 20121010
- PR - ES20120000114U 20120210
- AP - ES20120000114U 20120210
- DT - I
- PA - (U Y)
ELECTROSON TELECOMUNICACION SA [ES]
- TI - (U)
Universal access box for optical **splitters** (Machine-translation by Google Translate, not legally binding)
- AB - (U)
Universal access box for potato optical dividers, which is constituted from an enclosure formed by a cover (1) and a base (2), equipped with cable entries (4), clip-type closures (3), and gaskets of sealing, and of the type that has fastening means for splice trays, is characterized in that inside the enclosure and coupled in its base (2), are housed: a main folding support (9) for fixing the trays of splice (16) that, in addition, has a **system** of channels for guiding tubes and a **system** of **fiber optic** routers; a tube storage piece (10); a second support for fixing trays for section change (11); a router (12) of outputs/inputs of **splitter** fibers; and a third support for fixing dividers trays (13). (Machine-translation by Google Translate, not legally binding)

53/140 © EPODOC / EPO

PN - [US2012155107](#) A1 20120621

PNFP - US8602606 B2 20131210

PR - US20100973081 20101220

AP - US20100973081 20101220

DT - *, Rep

CT - || R141 (A1)
[US4973153](#) A 19901127 [] (YOKOKURA TAKASHI [JP], et al);
[US4979791](#) A 19901225 [] (BOWEN TERRY P [US], et al);
[US2009237675](#) A1 20090924 [] (NISHIZAWA NORIHIKO [JP], et al);
[US5818998](#) A 19981006 [] (HARRIS LAURA LEE [US], et al);
[US2005286101](#) A1 20051229 [] (GARNER HAROLD R [US], et al);
[US2006056851](#) A1 20060316 [] (TAKAHASHI KOICHI [JP]);
[US2010182405](#) A1 20100722 [] (MONTEIRO SERGIO LARA PEREIRA [US])

- || STSE (B2)
[US4973153](#) A 19901127 [] (YOKOKURA TAKASHI [JP], et al);
[US4979791](#) A 19901225 [] (BOWEN TERRY P [US], et al);
[US5818998](#) A 19981006 [] (HARRIS LAURA LEE [US], et al);
[US2005286101](#) A1 20051229 [] (GARNER HAROLD R [US], et al);
[US2006056851](#) A1 20060316 [] (TAKAHASHI KOICHI [JP]);
[US2009237675](#) A1 20090924 [] (NISHIZAWA NORIHIKO [JP], et al);
[US2010182405](#) A1 20100722 [] (MONTEIRO SERGIO LARA PEREIRA [US])

CCI - [G02B6/06](#)

CCA - [H01S3/0071](#)

CI - G02B6/06 (EP)

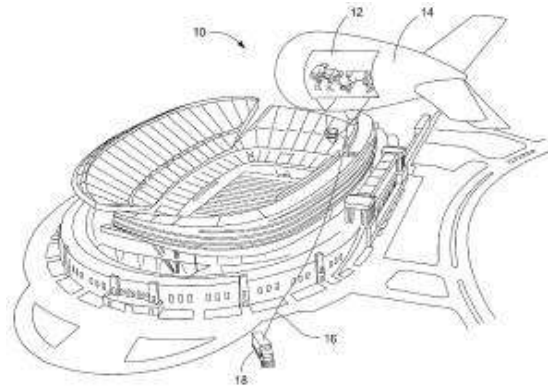
CA - H01S3/0071 (EP)

PA - (A1 B2)
COTTRELL WILLIAM J [US]; KENNEDY NATHAN G [US]; RAYTHEON CO [US]

TI - (A1)
METHODS AND APPARATUS TO RECEIVE LIGHT FROM A LASER VIA AIR FOR A **FIBER OPTIC** DISPLAY

- (B2)
Methods and apparatus to receive light from a laser via air for a **fiber optic** display

AB - (A1 B2)
Methods and apparatus for a free space coupler to receive light from a laser via air. In one embodiment, a **system** comprises a laser source, a mirror optically aligned to the laser source, a



first mount to control a position of the mirror, a free-space coupler to receive light from the mirror, a beam **splitter** to receive light exiting the coupler, a first detector to receive light reflected from the beam **splitter**, a second mount coupled to the first detector and to the coupler to control a position of the coupler from information from the first detector, and a second detector to receive light reflected by the coupler and the mirror, wherein the second detector is coupled to the first mount for positioning the mirror with respect to the coupler.

54/140 © EPODOC / EPO

PN - [US2011317973](#) A1 20111229

PNFP - US8358900 B2 20130122

PR - US201113155978 20110608; US20100911404 20101025; US20090495355 20090630; US20080077801 20080320; US20060411414 20060425; US20050151932 20050613; US20030745918 20031223

AP - US201113155978 20110608

DT - **

CT - || R141 (A1)
[US2006093301](#) A1 20060504 [] (ZIMMEL STEVEN C [US], et al);
[US2007047893](#) A1 20070301 [] (KRAMER ANNE [DE], et al);
[US2006269206](#) A1 20061130 [] (ZIMMEL STEVEN C [US]);
[US2006269205](#) A1 20061130 [] (ZIMMEL STEVEN C [US]);
[US7376322](#) B2 20080520 [] (ZIMMEL STEVEN C [US], et al);
[US7346254](#) B2 20080318 [] (KRAMER ANNE [DE], et al)
 - || STSE (B2)
[US7346254](#) B2 20080318 [] (KRAMER ANNE [DE], et al);
[US7376322](#) B2 20080520 [] (ZIMMEL STEVEN C [US], et al);
[US2006093301](#) A1 20060504 [] (ZIMMEL STEVEN C [US], et al);
[US2006269205](#) A1 20061130 [] (ZIMMEL STEVEN C [US]);
[US2006269206](#) A1 20061130 [] (ZIMMEL STEVEN C [US]);
[US2007047893](#) A1 20070301 [] (KRAMER ANNE [DE], et al)

CCI - [G02B6/4452](#) ; [G02B6/4453](#)

CI - G02B6/4452 (EP)
 - G02B6/4453 (EP)

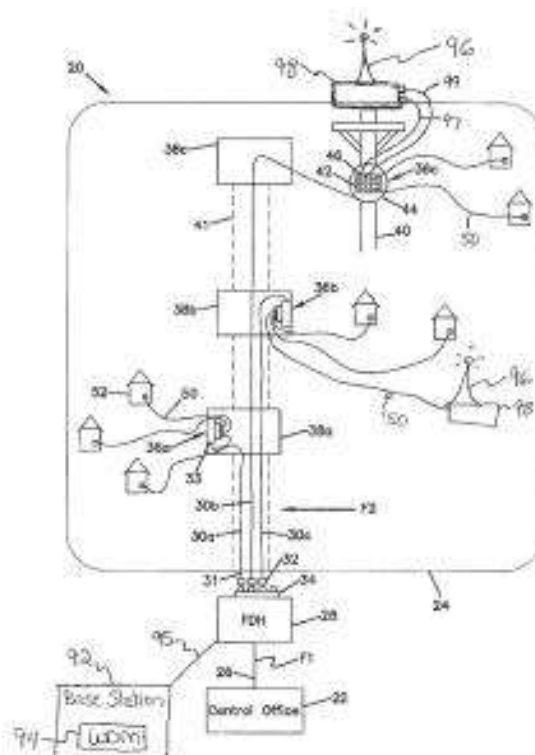
PA - (A1)
 RAPP DAVID E [US]; HAATAJA TIMOTHY J [US]; BOLSTER KRISTOFER J [US]; MILLER HEIDI L [US]; ADC TELECOMMUNICATIONS INC [US]
 - (B2)
 ADC TELECOMMUNICATIONS INC [US]; RAPP DAVID E [US]; HAATAJA TIMOTHY J [US]; BOLSTER KRISTOFER J [US]; MILLER HEIDI L [US]

TI - (A1)
FIBEROPTIC TERMINATION SYSTEM
 - (B2)
Fiber optic module with adapters mounted at open front

AB - (A1 B2)
 A **fiber optic** telecommunications frame is provided including termination modules positioned on left and right sides of the frame. The frame further includes left and right vertical cable guides. The frame includes a horizontal passage linking the left and right panels and the cable guides. The termination modules hold **fiber optic** modules with front termination locations.

The **fiber optic** modules can house couplers, such as **splitters**, combiners, and wave length division multiplexers. A retention mechanism retains each **fiber optic** module in a partially removed position from the termination module.

- 55/140 © EPODOC / EPO
- PN - [US2011311226](#) A1 20111222
- PNFP - US8837940 B2 20140916
- PR - US201113086909
20110414; US20100324284P 20100414
- AP - US201113086909 20110414
- DT - *, Rep
- CT - || R141 (A1)
[US6895185](#) B1 20050517 [] (CHUNG YUN CHUR [KR], et al);
[US2008013910](#) A1 20080117 [] (REAGAN RANDY [US], et al);
[US5682256](#) A 19971028 [] (MOTLEY ANDREW JAMES [GB], et al);
[US7349605](#) B2 20080325 [] (NOONAN MICHAEL [US], et al);
[US2010021164](#) A1 20100128 [] (LUK TOM [CA], et al);
[US2008218947](#) A1 20080911 [] (ATKINSON DOUGLAS A [US]);
[US2008063397](#) A1 20080313 [] (HU JUNQIANG [US], et al)
- || STSE (B2)
[US5682256](#) A 19971028 [] (MOTLEY ANDREW JAMES [GB], et al);
[US6895185](#) B1 20050517 [] (CHUNG YUN CHUR [KR], et al);
[US7349605](#) B2 20080325 [] (NOONAN MICHAEL [US], et al);
[US2008013910](#) A1 20080117 [] (REAGAN RANDY [US], et al);
[US2008063397](#) A1 20080313 [] (HU JUNQIANG [US], et al);
[US2008218947](#) A1 20080911 [] (ATKINSON DOUGLAS A [US]);
[US2010021164](#) A1 20100128 [] (LUK TOM [CA], et al)
- CCI - [G02B6/483](#) ; [H04Q11/0067](#)
- CCA - [G02B6/4457](#) ; [H04Q2011/009](#) ;
[H04W88/085](#)
- CI - G02B6/483 (EP, US)
- H04B10/25753 (US)
- H04B10/807 (US)
- H04Q11/0067 (EP, US)
- CA - G02B6/4457 (EP, US)
- H04Q2011/009 (EP, US)
- H04W88/085 (EP, US)
- PA - (A1 B2)
SMITH TREVOR D [US]; KHEMAKHEM M HAMED ANIS [US]; ADC TELECOMMUNICATIONS INC [US]



TI	- (A1) Methods and Systems for Distributing Fiber Optic Telecommunication Services to Local Areas and for Supporting Distributed Antenna Systems - (B2) Methods and systems for distributing fiber optic telecommunication services to local areas and for supporting distributed antenna systems
AB	- (A1 B2) A fiber optic network includes a fiber distribution hub including at least one splitter and a termination field; a plurality of drop terminals optically connected to the fiber distribution hub by a plurality of distribution cables; and a distributed antenna system (DAS). The DAS includes a base station and a plurality of antenna nodes. The base station is optically connected to the fiber distribution hub and the antenna nodes are optically connected to the drop terminals. Example splitters include a passive optical power splitter and a passive optical wavelength splitter. Signals from a central office can be routed through the passive optical power splitter before being routed to subscriber locations optically connected to the drop terminals. Signals from the base station can be routed through the wavelength splitter before being routed to the antenna nodes.
TXT	- cabinet 400; optical splitter module housing 446; pigtails 454

56/140 © EPODOC / EPO

PN	- TWM356922U U 20090511	.
PR	- TW20080201848U 20080128	
AP	- TW20080201848U 20080128	
DT	- I	
PA	- WISTEK CO LTD [TW]; TOUCHING SYSTEMS CO LTD [TW]	
TI	- Light splitter using Y-type light splitter with back-and-forth periodic block waveguide structure for improving fiber-optic communication system	

57/140 © EPODOC / EPO

PN	- USRE42258E E 20110329	.
PR	- US20080218240 20080711; US20000689989 20001013; US20060397885 20060404; US19980122947 19980727	
AP	- US20080218240 20080711	
DT	- **	
CT	- STSE (E)	

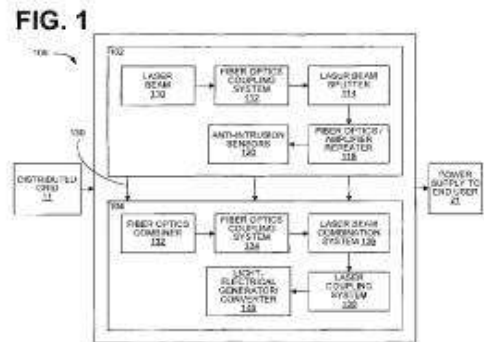
[US5127082](#) A 19920630 [] (BELOW RANDALL J [US], et al);
[US5212761](#) A 19930518 [] (PETRUNIA ALEXANDER [US]);
[US5887106](#) A 19990323 [] (CHEESEMAN ERIC W [GB], et al)

- CCI - [G02B6/4452](#)
CCA - [G02B6/4457](#)
CI - G02B6/4452 (EP)
CA - G02B6/4457 (EP)
PA - ADC TELECOMMUNICATIONS INC [US]
TI - Outside plant fiber distribution apparatus and method
AB - An outside plant fiber distribution apparatus includes a frame member and a plurality of **fiber optic** modules mounted to the frame member. The frame member includes upper and lower module mounting brackets. Each module includes a front and two mounting flanges, each mountable to one of the upper and lower module mounting brackets. At least one of the modules is configured as a connection module including a plurality of connection locations disposed along the front of the module. A rear of the module includes a cable notch region for receipt of a cable. At least one of the modules defines a storage module including first and second spools. In an interconnect **system**, the storage module includes a cable clamp for holding a second cable, the cables are connected through the connection locations of the connection module. In a cross-connect **system**, two connection modules are provided, and patch cords are used to connect the fronts of the connection modules. The modules may also house splices, and/or optical couplers, such as **splitters** and wave division multiplexers.

58/140 © EPODOC / EPO

- PN - [WO2011030306](#) A1 20110317
PR - US20090240882P 20090909
AP - WO2010IB54080 20100909
DT - *, Rep
CT - [CA] ISR (A1)
[US2008065270](#) A1 20080313
[A] (KASZTENNY BOGDAN Z [CA], et al);
[US6931183](#) B2 20050816 [A] (PANAK DAVID L [US], et al);
[US6603891](#) B2 20030805
[A] (SCHUMANN MATHIAS [DE])

- CCI - [G02B6/4296](#) ; [H02J50/30](#) ; [H02J50/50](#) ;
[H04B10/807](#)
CI - G02B6/4296 (EP)
- H02J50/30 (EP, US)
- H02J50/50 (EP, US)
- H04B10/807 (EP)
PA - THINKECO POWER INC [CA]; KONG STEPHEN POH CHEW [CA]
TI - METHOD AND **SYSTEM** OF AGGREGATING AND DELIVERING ELECTRICAL POWER USING **FIBER OPTIC** CABLES
AB - The present invention provides a **system** and method for delivering electrical power using **fiber optic** cables. The **system** includes a laser that produces a laser beam, a laser beam **splitter** for splitting the laser beam into a plurality of laser beams, and **fiber optic** cable for transmitting the plurality of laser beams to a remote location.



The **system** further includes a laser beam combination **system** for combining the plurality of laser beams and an electrical power generator for converting power from the combined laser beam to electrical power. The method of delivering electrical power using **fiber optic** cables includes splitting a high power laser beam into a plurality of low power laser beams and transmitting the plurality of laser beams via conventional optical infrastructure. The method further includes collimating the plurality of laser beams into a collimated beam and converting the collimated beam into electrical energy.

59/140 © EPODOC / EPO

PN - [US2011038591](#) A1 20110217

PNFP - US7983521 B2 20110719

PR - US20100911404 20101025; US20090495355 20090630; US20080077801 20080320; US20060411414 20060425; US20050151932 20050613; US20030745918 20031223

AP - US20100911404 20101025

DT - **

CT - || R141 (A1)
[US4995688](#) A 19910226 [] (ANTON MARK A [US], et al);
[US5289588](#) A 19940222 [] (SONG SEUNGYOON P [US], et al);
[US5717810](#) A 19980210 [] (WHEELER TODD A [US]);
[US2006029353](#) A1 20060209 [] (BOLSTER KRISTOFER J [US], et al);
[US5402515](#) A 19950328 [] (VIDACOVICH KENNETH J [US], et al);
[US5497444](#) A 19960305 [] (WHEELER TODD A [US]);
[US5734776](#) A 19980331 [] (PUETZ CURTIS L [US]);
[US6044193](#) A 20000328 [] (SZENTESI OTTO I [US], et al);
[US4747020](#) A 19880524 [] (BRICKLEY PATRICK [US], et al);
[US5758003](#) A 19980526 [] (WHEELER TODD A [US], et al);
[US7376321](#) B2 20080520 [] (BOLSTER KRISTOFER J [US], et al);
[US5774245](#) A 19980630 [] (BAKER PHILLIP E [US]);
[US5129030](#) A 19920707 [] (PETRUNIA ALEXANDER [US]);
[US5432875](#) A 19950711 [] (KORKOWSKI JEFF L [US], et al);
[US4765710](#) A 19880823 [] (BURMEISTER KLAUS-DIETER [DE], et al);
[US5353367](#) A 19941004 [] (CZOSNOWSKI W MICHAL [CA], et al);
[US5966492](#) A 19991012 [] (BECHAMPS RONALD D [US], et al);
[US5067784](#) A 19911126 [] (DEBORTOLI GEORGE [CA], et al);
[US5167001](#) A 19921124 [] (DEBORTOLI GEORGE [CA], et al);
[US5689604](#) A 19971118 [] (JANUS NEAL ANTHONY [US], et al);
[US4630886](#) A 19861223 [] (LAURIELLO PHILIP J J [US], et al);
[US2010322577](#) A1 20101223 [] (BOLSTER KRISTOFER J [US], et al)

- || STSE (B2)
[US7376321](#) B1 00000000 [];
[US2006029353](#) A1 20060209 [] (BOLSTER KRISTOFER J [US], et al);
[US2010322577](#) A1 20101223 [] (BOLSTER KRISTOFER J [US], et al)

CCI - [G02B6/4452](#) ; [G02B6/4453](#)

CI - G02B6/4452 (EP)
- G02B6/4453 (EP)

PA - (A1 B2)
ADC TELECOMMUNICATIONS INC [US]

TI - (A1)
FIBER OPTIC TERMINATION SYSTEM WITH RETENTION MECHANISM
 - (B2)
Fiber optic termination system with retention mechanism

AB - (A1 B2)
 A **fiber optic** telecommunications frame is provided including termination modules positioned on left and right sides of the frame. The frame further includes left and right vertical cable guides. The frame includes a horizontal passage linking the left and right panels and the cable guides. The termination modules hold **fiber optic** modules with front termination locations. The **fiber optic** modules can house couplers, such as **splitters**, combiners, and wave length division multiplexers. A retention mechanism retains each **fiber optic** module in a partially removed position from the termination module.

60/140 © EPODOC / EPO

PN - [WO2011057812](#) A2 20110519

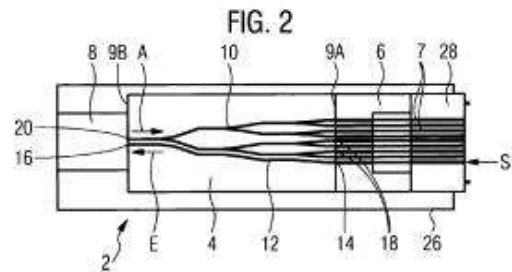
PNFP - WO2011057812 A3 20110728

PR - DE20091053054 20091116

AP - WO2010EP06931 20101115

DT - *, Rep

CT - |EP| ISR (A3)
[EP0146196](#) A2 00000000 [X] (PHILIPS PATENTVERWALTUNG[DE]; PHILIPSNV [NL])
 [X] 1-6,8
 * page 3, line 4 - page 6, line 17;
 figures 1,2 *;
[CA2217688](#) A1 00000000 [I] (JDS FITEL INC [CA] INGENHOFF JAN [DE]; DUCK GARY [CA]; FABRICIUS NORBE)
 [I] 9
 * page 8, line 4 - line 28; figures 5,6 *;
[EP0947861](#) A1 00000000 [I] (JDS FITEL INC [CA])
 [I] 9
 * paragraph [0016] - paragraph [0018]
 *
 * paragraph [0024] - paragraph [0031];
 figure 4 *



CCI - [G02B6/125](#) ; [G02B6/30](#)

CI - G02B6/125 (EP)

- G02B6/30 (EP)

PA - (A2 A3)
 LEONI KABEL HOLDING GMBH [DE]; ROSS LUDWIG [DE]; KUFNER MARIA [DE]; KUFNER STEFAN [DE]; FOSS WOLFGAN [DE]; BOCK MARCO [DE]; BAETZ FRANK [DE]

TI - (A2 A3)
 OPTICAL ASSEMBLY

AB - (A2 A3)
 The invention relates to the enabling of a simple installation of an optical assembly (2), in particular designed as a branching element, for a **fiber optic** transmission **system** in that there is only one fiber coupling on one side to the optical assembly (2). According to the

invention, the optical assembly (2) has an optical component (4), in particular a **splitter**, on the one end face of which the fiber coupling is made, in particular by means of a connection carrier (6), wherein there is solely a deflection element (8), in particular designed as a gradient lens, on the opposite end face (9B). A multi-fiber plug (28) is furthermore preferably integrated in the optical assembly (2) in order to enable simple installation.

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PN - [US2010250000](#) A1 20100930

PNFP - US8463439 B2 20130611

PR - US20090415795 20090331

AP - US20090415795 20090331

DT - *, Rep

CT - || R141 (A1)

[US6221007](#) B1 20010424 [] (GREEN PHILIP S [US]);

[US6374012](#) B1 20020416 [] (BERGMANN ERNEST EISENHARDT [US], et al);

[US2002064347](#) A1 20020530 [] (MERTZ PIERRE H [US], et al);

[US6411755](#) B1 20020625 [] (ERDOGAN TURAN[US]);

[US6493489](#) B2 20021210 [] (MERTZ PIERRE H [US], et al);

[US2005148997](#) A1 20050707 [] (VALLEY KIRSTEN L [US], et al);

[US2007213743](#) A1 20070913 [] (MCGUCKIN JR JAMES F [US]);

[US2009093867](#) A1 20090409 [] (SCHWARZ EDWARD M [US], et al);

[US2009123111](#) A1 20090514 [] (UDD ERIC [US]);

[US6256090](#) B1 20010703 [] (CHEN PETER C [US], et al);

[US2004067003](#) A1 20040408 [] (CHLIAGUINE MIKHAIL [MX], et al);

[US2007265503](#) A1 20071115 [] (SCHLESINGER RANDALL L [US], et al);

[US2008285909](#) A1 20081120 [] (YOUNGE ROBERT G [US], et al);

[US4898450](#) A 19900206 [] (JANNSON TOMMASZ [US], et al);

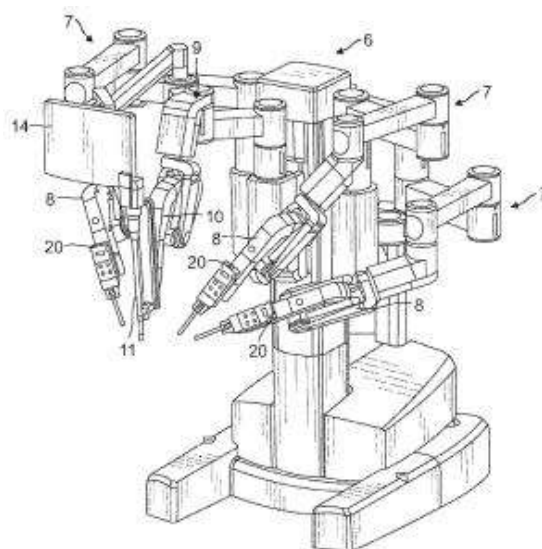
[US6865332](#) B1 20050308 [] (SARAVANOS COSTAS [US], et al);

[US2007065077](#) A1 20070322 [] (CHILDERS BROOKS A [US], et al);

[US2008065111](#) A1 20080313 [] (BLUMENKRANZ STEPHEN J [US], et al);

[US4913510](#) A 19900403 [] (LYNCH THOMAS M [US], et al);

[US7031567](#) B2 20060418 []



] (GRINDERSLEV SOREN [US], et al);
[US7200300](#) B2 20070403 [] (BAREFOOT
 KRISTEN L [US], et al);
[US7350981](#) B2 20080401 [] (DURRANT
 RICHARD C E [US], et al);
[US4834494](#) A 19890530 [] (DEMERRITT
 JEFFERY A [US], et al);
[US6736547](#) B2 20040518 [] (STEVENS
 RICK C [US], et al);
[US7218828](#) B2 20070515 [] (FEUSTEL
 CLAY A [US], et al);
[US4836637](#) A 19890606 [] (POORMAN
 THOMAS J [US], et al);
[US6263133](#) B1 20010717 [] (HAMM
 MARK A [US]);
[US2006161138](#) A1 20060720 [] (ORBAN
 JOSEPH P III [US], et al);
[US2007165238](#) A1 20070719 [] (BOYD
 CLARK D [US]);
[US7258495](#) B1 20070821 [] (HUGHES JR
 LAWRENCE CHARLES [US], et al);
[US4953938](#) A 19900904 [] (BUHRER
 CARL F [US], et al);
[US5257332](#) A 19931026 [] (PIMPINELLA
 RICHARD J [US]);
[US6632025](#) B2 20031014 []
] (UKRAINCZYK LJERKA [US]);
[US4889399](#) A 19891226 [] (MARIANI
 BENIAMINO [IT], et al);
[US5996376](#) A 19991207 [] (JOHNSON
 ERIC G [US], et al);
[US6655850](#) B2 20031202 [] (MANN
 LARRY G [US], et al);
[US7460750](#) B2 20081202 [] (DURRANT
 RICHARD C E [US], et al)

- || STSE (B2)

[US6221007](#) B1 20010424 [] (GREEN
 PHILIP S [US]);
[US6256090](#) B1 20010703 [] (CHEN
 PETER C [US], et al);
[US6374012](#) B1 20020416 [] (BERGMANN
 ERNEST EISENHARDT [US], et al);
[US6411755](#) B1 20020625 [] (ERDOGAN
 TURAN [US]);
[US6493489](#) B2 20021210 [] (MERTZ
 PIERRE H [US], et al);
[US2002064347](#) A1 20020530 [] (MERTZ
 PIERRE H [US], et al);
[US2004067003](#) A1 20040408 []
] (CHLIAGUINE MIKHAIL [MX], et al);
[US2005148997](#) A1 20050707 [] (VALLEY
 KIRSTEN L [US], et al);
[US2007213743](#) A1 20070913 []
] (MCGUCKIN JR JAMES F [US]);
[US2007265503](#) A1 20071115 []
] (SCHLESINGER RANDALL L [US], et al);
[US2008285909](#) A1 20081120 []
] (YOUNGE ROBERT G [US], et al);
[US2009093867](#) A1 20090409 []

	] (SCHWARZ EDWARD M [US], et al); US2009123111 A1 20090514 [] (UDD ERIC [US])
CCI	- A61B34/30
CCA	- A61B2017/00477 ; A61B2034/305 ; A61B2090/064 ; Y10T74/20335
CI	- A61B18/00 (US) - A61B34/20 (US) - A61B34/30 (EP, KR, US) - G01B11/16 (US) - G01L1/242 (US) - G02B6/12019 (US) - G02B6/264 (US) - G02B6/32 (US)
CA	- A61B2017/00477 (EP, KR, US) - A61B2018/2244 (KR) - A61B2018/2266 (KR) - A61B2034/2061 (US) - A61B2034/305 (EP, KR, US) - A61B2090/064 (EP, KR, US) - A61B2562/0266 (US) - Y10T74/20335 (EP, US)
PA	- (A1) INTUITIVE SURGICAL INC [US] - (B2) BLUMENKRANZ STEPHEN J [US]; DACHS II GREGORY W [US]; MCDOWALL IAN [US]; HASSER CHRISTOPHER J [US]; INTUITIVE SURGICAL OPERATIONS [US]
TI	- (A1) OPTIC FIBER CONNECTION FOR A FORCE SENSING INSTRUMENT - (B2) Optic fiber connection for a force sensing instrument
AB	- (A1 B2) In one embodiment, a surgical instrument includes a housing linkable with a manipulator arm of a robotic surgical system , a shaft operably coupled to the housing, a force transducer on a distal end of the shaft, and a plurality of fiber optic strain gauges on the force transducer. In one example, the plurality of strain gauges are operably coupled to a fiber optic splitter or an arrayed waveguide grating (AWG) multiplexer. A fiber optic connector is operably coupled to the fiber optic splitter or the AWG multiplexer. A wrist joint is operably coupled to a distal end of the force transducer, and an end effector is operably coupled to the wrist joint. In another embodiment, a robotic surgical

manipulator includes a base link operably coupled to a distal end of a manipulator positioning **system**, and a distal link movably coupled to the base link, wherein the distal link includes an instrument interface and a **fiber optic** connector optically linkable to a surgical instrument. A method of passing data between an instrument and a manipulator via optical connectors is also provided.

62/140 © EPODOC / EPO

PN - [USRE41777E](#) E 20100928

PR - US20080218241 20080711; US20000689989 20001013; US20060397885 20060404; US19980122947 19980727

AP - US20080218241 20080711

DT - **

CT - || STSE (E)
[US4652072](#) A 19870324 [] (ARASI JR LOUIS A [US]);
[US5212761](#) A 19930518 [] (PETRUNIA ALEXANDER [US]);
[US5975769](#) A 19991102 [] (LARSON GLEN M [US], et al);
[US6208796](#) B1 20010327 [] (WILLIAMS VIGLIATURO SHARI LYNN [US])

CCI - [G02B6/4452](#)

CCA - [G02B6/4457](#)

CI - G02B6/4452 (EP)

CA - G02B6/4457 (EP)

PA - ADC TELECOMMUNICATIONS INC [US]

TI - Outside plant fiber distribution apparatus and method

AB - An outside plant fiber distribution apparatus includes a frame member and a plurality of **fiber optic** modules mounted to the frame member. The frame member includes upper and lower module mounting brackets. Each module includes a front and two mounting flanges, each mountable to one of the upper and lower module mounting brackets. At least one of the modules is configured as a connection module including a plurality of connection locations disposed along the front of the module. A rear of the module includes a cable notch region for receipt of a cable. At least one of the modules defines a storage module including first and second spools. In an interconnect **system**, the storage module includes a cable clamp for holding a second cable, the cables are connected through the connection locations of the connection module. In a cross-connect **system**, two connection modules are provided, and patch cords are used to connect the fronts of the connection modules. The modules may also house splices, and/or optical couplers, such as **splitters** and wave division multiplexers.

63/140 © EPODOC / EPO

PN - [US2010150518](#) A1 20100617

PR - US20070748633 20070515; US20100705002 20100212; US20060848901P 20061002

AP - US20100705002 20100212

DT - **

CT - || R141 (A1)
[US7158712](#) B2 00000000 [];
[US7171100](#) B2 00000000 [];
[US7474828](#) B2 00000000 [];
[US2007031100](#) A1 00000000 [];
[US6044193](#) A 00000000 [];
[US6201919](#) B1 00000000 [];
[US6532332](#) B2 00000000 [];

[US6539161](#) B2 00000000 [];
[US7194181](#) B2 00000000 [];
[US5625737](#) A 00000000 [];
[US7526174](#) B2 00000000 [];
[US5412497](#) A 00000000 [];
[US5754723](#) A 00000000 [];
[US2006093301](#) A1 00000000 [];
[US7218827](#) B2 00000000 [];
[US7376322](#) B2 00000000 [];
[US5127082](#) A 00000000 [];
[US6249634](#) B1 00000000 [];
[US2005129379](#) A1 00000000 [];
[US5430823](#) A 00000000 [];
[US6418262](#) B1 00000000 [];
[US6424781](#) B1 00000000 [];
[US6591053](#) B2 00000000 [];
[US6768860](#) B2 00000000 [];
[US6920274](#) B2 00000000 [];
[US5339379](#) A 00000000 [];
[US6792190](#) B2 00000000 [];
[US6792191](#) B1 00000000 [];
[US7428363](#) B2 00000000 [];
[US5966492](#) A 00000000 [];
[US6301423](#) B1 00000000 [];
[US6633717](#) B1 00000000 [];
[US7277620](#) B2 00000000 [];
[US2004218888](#) A1 00000000 [];
[US6819856](#) B2 00000000 [];
[US6501899](#) B1 00000000 [];
[US2005281526](#) A1 00000000 [];
[US6976859](#) B2 00000000 []

- CCI - [G02B6/4452](#)
- CI - G02B6/4452 (EP)
- PA - EMERSON NETWORK POWER ENERGY [US]
- TI - **Optic Fiber** Distribution Hub
- AB - In accordance with various embodiments, a **fiber optic** distribution hub is provided. In various implementations the fiber distribution hub includes at least one of a universal **splitter** holder, a distribution module including a plurality of sliding service connection circuit trays, and a distribution jumper incremental slack limiting fiber management **system**. The universal **splitter** holder is structured to retain any one of a plurality of **fiber optic splitters** within the distribution hub. The service connection circuit trays of the distribution module are structured to slidably transition from a stowed position to a deployed position to allow independent access to any one of a plurality of **optic fiber** circuits retained within each respective circuit tray. The distribution jumper incremental slack limiting fiber management **system** is configured to reduce slack in at least one jumper fiber extending between the universal **splitter** holder and the distribution module within the distribution hub.

64/140 © EPODOC / EPO

- PN - [US2010003000](#) A1 20100107
- PNFP - US7822313 B2 20101026
- PR - US20090495355 20090630; US20080077801 20080320; US20060411414 20060425; US20050151932 20050613; US20030745918 20031223
- AP - US20090495355 20090630
- DT - **
- CT - || R141 (A1)
[US5179618](#) A 19930112 [] (ANTON MARK A [US]);

[US2005003697](#) A1 20050106 [] (NEER JAY H [US], et al);
[US4995688](#) A 19910226 [] (ANTON MARK A [US], et al);
[US5289558](#) A 19940222 [] (TEICHLER HEIDE [DE], et al);
[US5717810](#) A 19980210 [] (WHEELER TODD A [US]);
[US6850685](#) B2 20050201 [] (TINUCCI THOMAS [US], et al);
[US2006029353](#) A1 20060209 [] (BOLSTER KRISTOFER J [US], et al);
[US5402515](#) A 19950328 [] (VIDACOVICH KENNTH J [US], et al);
[US5497444](#) A 19960305 [] (WHEELER TODD A [US]);
[US5734776](#) A 19980331 [] (PUETZ CURTIS L [US]);
[US6044193](#) A 20000328 [] (SZENTESI OTTO I [US], et al);
[US6535682](#) B1 20030318 [] (PUETZ CURTIS LEE [US], et al);
[US2005048831](#) A1 20050303 [] (NEER JAY H [US], et al);
[US6556763](#) B1 20030429 [] (PUETZ CURTIS LEE [US], et al);
[US4747020](#) A 19880524 [] (BRICKLEY PATRICK [US], et al);
[US5317663](#) A 19940531 [] (BEARD MICHAEL S [US], et al);
[USRE34955E](#) E 19950530 [] (ANTON MARK A [US], et al);
[US5758002](#) A 19980526 [] (WALTERS MARK D [US]);
[US5758003](#) A 19980526 [] (WHEELER TODD A [US], et al);
[US5903698](#) A 19990511 [] (POREMBIA JOHN [US], et al);
[US2003095772](#) A1 20030522 [] (SOLHEID JAMES J [US], et al);
[US6888069](#) B1 20050503 [] (CHEN EDWARD [CA], et al);
[US7376321](#) B2 20080520 [] (BOLSTER KRISTOFER J [US], et al);
[US5774245](#) A 19980630 [] (BAKER PHILLIP E [US]);
[US5129030](#) A 19920707 [] (PETRUNIA ALEXANDER [US]);
[US5432875](#) A 19950711 [] (KORKOWSKI JEFF L [US], et al);
[US6424781](#) B1 20020723 [] (PUETZ CURTIS LEE [US], et al);
[US6760531](#) B1 20040706 [] (SOLHEID JAMES J [US], et al);
[US6920274](#) B2 20050719 [] (RAPP DAVID E [US], et al);
[US4763710](#) A 19880816 [] (PIELACH MARTIN [US]);
[US6937800](#) B2 20050830 [] (COTE NICOLAS [CA]);
[US6793517](#) B2 20040921 [] (NEER JAY H [US], et al);
[US5353367](#) A 19941004 [] (CZOSNOWSKI W MICHAL [CA], et al);
[US5966492](#) A 19991012 [] (BECHAMPS RONALD D [US], et al);
[US6631237](#) B2 20031007 [] (KNUDSEN CLINTON M [US], et al);
[US5067784](#) A 19911126 [] (DEBORTOLI GEORGE [CA], et al);
[US5363465](#) A 19941108 [] (KORKOWSKI JEFF L [US], et al);
[US5689604](#) A 19971118 [] (JANUS NEAL ANTHONY [US], et al);
[US7142765](#) B2 20061128 [] (RAPP DAVID E [US], et al);
[US4630886](#) A 19861223 [] (LAURIELLO PHILIP J J [US], et al);
[US5071211](#) A 19911210 [] (DEBORTOLI GEORGE [CA], et al);
[US5168001](#) A 19921201 [] (LEGARE JOHN M [US], et al)

- || STSE (B2)

[US7376321](#) B2 20080520 [] (BOLSTER KRISTOFER J [US], et al);
[US2006029353](#) A1 20060209 [] (BOLSTER KRISTOFER J [US], et al)

CCI - [G02B6/4452](#) ; [G02B6/4453](#)

CI - G02B6/4452 (EP)

- G02B6/4453 (EP)

PA - (A1 B2)

ADC TELECOMMUNICATIONS INC [US]

TI - (A1)

FIBER OPTIC TERMINATION SYSTEM WITH RETENTION MECHANISM

- (B2)

Fiber optic termination system with retention mechanism

AB - (A1 B2)

A **fiber optic** telecommunications frame is provided including termination modules positioned on left and right sides of the frame. The frame further includes left and right vertical cable guides. The frame includes a horizontal passage linking the left and right panels and the cable

guides. The termination modules hold **fiber optic** modules with front termination locations. The **fiber optic** modules can house couplers, such as **splitters**, combiners, and wave length division multiplexers. A retention mechanism retains each **fiber optic** module in a partially removed position from the termination module.

65/140 © EPODOC / EPO

PN - [MX2007011248](#) A 20090206
 PR - US20060848901P 20061002; US20070748717 20070515
 AP - MX20070011248 20070913
 DT - I
 CCI - [G02B6/4452](#)
 CI - G02B6/4452 (EP)
 PA - EMERSON NETWORK POWER ENERGY [US]
 TI - SLACK LIMITING FIBER MANAGEMENT **SYSTEM** FOR AN **OPTIC FIBER** DISTRIBUTION HUB.
 AB - In accordance with various embodiments of the present disclosure, an incremental slack limiting fiber management **system** for reducing slack in at least one **optic fiber** extending between an optic **splitter** module and a distribution module within a **fiber optic** distribution hub is provided. The incremental slack limiting fiber management **system** includes a plurality of slack limiting spools mounted to an internal panel of the distribution hub between the **splitter** and the distribution module.

66/140 © EPODOC / EPO

PN - [US2009202206](#) A1 20090813
 PNFP - US8295664 B2 20121023
 PR - US20080284716 20080923; US20060365762 20060228; US20020265186 20021004; US20010327533P 20011005
 AP - US20080284716 20080923
 DT - **
 CT - || R141 (A1)
[US2003016925](#) A1 20030123 [] (SUN MAURICE X [US], et al);
[US2002024727](#) A1 20020228 [] (WILCOX RUSSELL B [US], et al);
[US7006737](#) B2 20060228 [] (HENSCHER JAMES J [US], et al);
[US5500917](#) A 19960319 [] (DANIEL HANI S [US], et al);
[US2003048991](#) A1 20030313 [] (GONTHIER FRANCOIS [CA]);
[US6873773](#) B2 20050329 [] (SUN MAURICE X [US], et al);
[US2003063833](#) A1 20030403 [] (GONTHIER FRANCOIS [CA], et al);
[US5627930](#) A 19970506 [] (ISHIGURO YOICHI [JP], et al);
[US6563971](#) B1 20030513 [] (BURTON THOMAS ROY [US], et al);
[US4593968](#) A 19860610 [] (GIALLORENZI THOMAS G [US]);
[US4943136](#) A 19900724 [] (POPOFF ALEXANDER A [US]);
[US5778120](#) A 19980707 [] (ASAKURA HIROYUKI [JP], et al);
[US6600860](#) B2 20030729 [] (SUN MAURICE X [US], et al);
[US6760495](#) B2 20040706 [] (GONTHIER FRANCOIS [CA], et al);
[US4869570](#) A 19890926 [] (YOKOHAMA ITARU [JP], et al);
[US5447585](#) A 19950905 [] (DANNOUX THIERRY L A [FR], et al);
[US7428357](#) B2 20080923 [] (HENSCHER JAMES J [US], et al);
[US5459804](#) A 19951017 [] (STOWE DAVID W [US]);
[US5682453](#) A 19971028 [] (DANIEL HANI S [US], et al);
[US2003198446](#) A1 20031023 [] (SUN MAURICE X [US], et al);
[US6951425](#) B2 20051004 [] (VERGEEST HENRICUS [US]);
[US4787692](#) A 19881129 [] (SPANKE RONALD A [US]);
[US5361382](#) A 19941101 [] (NAKAMURA SHIROU [JP], et al);
[US5268014](#) A 19931207 [] (MILLER WILLIAM J [US], et al);
[US6836599](#) B2 20041228 [] (GONTHIER FRANCOIS [CA])
 - || STSE (B2)

	US4593968 A 19860610 [] (GIALLORENZI THOMAS G [US]); US4869570 A 19890926 [] (YOKOHAMA ITARU [JP], et al); US4943136 A 19900724 [] (POPOFF ALEXANDER A [US]); US5268014 A 19931207 [] (MILLER WILLIAM J [US], et al); US5361382 A 19941101 [] (NAKAMURA SHIROU [JP], et al); US5459804 A 19951017 [] (STOWE DAVID W [US]); US5500917 A 19960319 [] (DANIEL HANI S [US], et al); US5627930 A 19970506 [] (ISHIGURO YOICHI [JP], et al); US5682453 A 19971028 [] (DANIEL HANI S [US], et al); US6563971 B1 20030513 [] (BURTON THOMAS ROY [US], et al); US6600860 B2 20030729 [] (SUN MAURICE X [US], et al); US6760495 B2 20040706 [] (GONTHIER FRANCOIS [CA], et al); US6836599 B2 20041228 [] (GONTHIER FRANCOIS [CA]); US6873773 B2 20050329 [] (SUN MAURICE X [US], et al); US6951425 B2 20051004 [] (VERGEEST HENRICUS [US]); US2002024727 A1 20020228 [] (WILCOX RUSSELL B [US], et al); US2003016925 A1 20030123 [] (SUN MAURICE X [US], et al); US2003048991 A1 20030313 [] (GONTHIER FRANCOIS [CA]); US2003063833 A1 20030403 [] (GONTHIER FRANCOIS [CA], et al); US2003198446 A1 20031023 [] (SUN MAURICE X [US], et al); JPH07333457 A 19951222 [] (SUMITOMO ELECTRIC INDUSTRIES)
CCI	- G02B6/125 ; G02B6/2804 ; G02B6/30
CCA	- G02B2006/1215
CI	- G02B6/125 (EP) - G02B6/2804 (EP) - G02B6/30 (EP)
CA	- G02B2006/1215 (EP)
PA	- (A1) FIBER OPTIC NETWORK SOLUTIONS [US] - (B2) HENSCHEL JAMES J [US]; STOWE DAVID W [US]; ADC TELECOMMUNICATIONS INC [US]
TI	- (A1 B2) Integrated optical splitter system
AB	- (A1 B2) A system and method directed to an integrated fiber optic splitter assembly having at least two fused splitters disposed in a common substrate. An integrated optical splitter assembly includes a plurality of input fibers, a plurality of output fibers, and a plurality of splitters disposed on a single substrate to either split or couple optical signals between the input and output optical fibers.
67/140	© EPODOC / EPO
PN	- CN101464539 A 20090624
PNFP	- CN101464539B B 20100818
PR	- CN20091044806 20090104
AP	- CN20091044806 20090104
DT	- I
PA	- (A) UNIV SHANGHAI SCIENCE & TECH [CN] - (B) UNIV SHANGHAI
TI	- (A B) Mach-Zehnder interferometer based on coaxial optical fiber
AB	- (A) The invention relates to a Mach-Zehnder interferometer based on a coaxial optical fiber, which comprises a single-mode input optical fiber, a first coaxial optical fiber, a single-mode optical

fiber, a second coaxial optical fiber and a single-mode output optical fiber which are connected in sequence. An optical beam **splitter** is formed by welding the single-mode input optical fiber and the single-mode optical fiber with two ends of the first coaxial optical fiber respectively; an optical combiner is formed by welding the single-mode optical fiber and the single-mode output optical fiber with two ends of the second coaxial optical fiber respectively; and the Mach-Zehnder interferometer is achieved in a single optical fiber. The Mach-Zehnder interferometer based on the coaxial optical fiber has the advantages of simple manufacture method, convenient operation, easy control of interference and transmission characteristics, good temperature stability, compact structure, easy integration with the prior optical fiber **system**, and the like, can be applied to optical fiber spectral filters, optical fiber pressure, refractive index, temperature sensor, and the like in the fields of optical fiber communication devices and **fiber optic** sensors.

- (B)

The invention relates to a Mach-Zehnder interferometer based on a coaxial optical fiber, which comprises a single-mode input optical fiber, a first coaxial optical fiber, a single-mode optical fiber, a second coaxial optical fiber and a single-mode output optical fiber which are connected in sequence. An optical beam **splitter** is formed by welding the single-mode input optical fiber and the single-mode optical fiber with two ends of the first coaxial optical fiber respectively; an optical combiner is formed by welding the single-mode optical fiber and the single-mode output optical fiber with two ends of the second coaxial optical fiber respectively; and the Mach-Zehnder interferometer is achieved in a single optical fiber. The Mach-Zehnder interferometer based on the coaxial optical fiber has the advantages of simple manufacture method, convenient operation, easy control of interference and transmission characteristics, good temperature stability, compact structure, easy integration with the prior optical fiber **system**, and the like, can be applied to optical fiber spectral filters, optical fiber pressure, refractive index, temperature sensor, and the like in the fields of optical fiber communication devices and **fiber optic** sensors.

68/140 © EPODOC / EPO

PN - [US2009162017](#) A1 20090625

PR - US20060440368 20060525; US20050684531P 20050526; US20080266637 20081107

AP - US20080266637 20081107

DT - **

CT - || R141 (A1)

[US4799756](#) A 00000000 [];
[US5710672](#) A 00000000 [];
[US2005013231](#) A1 00000000 [];
[US6992805](#) B2 00000000 [];
[US5719691](#) A 00000000 [];
[US6344148](#) B1 00000000 [];
[US2004027625](#) A1 00000000 [];
[US2004027668](#) A1 00000000 [];
[US2004036852](#) A1 00000000 [];
[US6693712](#) B1 00000000 [];
[US2005041000](#) A1 00000000 [];
[US5194744](#) A 00000000 [];
[US5499732](#) A 00000000 [];
[US5500910](#) A 00000000 [];
[US5886971](#) A 00000000 [];
[US2003044967](#) A1 00000000 [];
[US6862121](#) B2 00000000 [];
[US6882430](#) B2 00000000 [];
[US7027197](#) B2 00000000 [];
[US6389045](#) B1 00000000 [];
[US5123073](#) A 00000000 [];
[US5912872](#) A 00000000 [];
[US6081381](#) A 00000000 [];

[US6743552](#) B2 00000000 [];
[US6747257](#) B1 00000000 [];
[US2005141810](#) A1 00000000 [];
[US6909592](#) B2 00000000 [];
[US6265240](#) B1 00000000 [];
[US6762835](#) B2 00000000 [];
[US6765061](#) B2 00000000 [];
[US6768426](#) B2 00000000 [];
[US2005146762](#) A1 00000000 [];
[US4103998](#) A 00000000 [];
[US5932045](#) A 00000000 [];
[US6103454](#) A 00000000 [];
[US6104690](#) A 00000000 [];
[US6780546](#) B2 00000000 [];
[US6925225](#) B2 00000000 [];
[US4693545](#) A 00000000 [];
[US5956106](#) A 00000000 [];
[US6796697](#) B1 00000000 [];
[US2005190451](#) A1 00000000 [];
[US3612698](#) A 00000000 [];
[US4780617](#) A 00000000 [];
[US5563702](#) A 00000000 [];
[US6137601](#) A 00000000 [];
[US6956998](#) B2 00000000 [];
[US6958805](#) B2 00000000 [];
[US5066088](#) A 00000000 [];
[US5365342](#) A 00000000 [];
[US5692083](#) A 00000000 [];
[US6482551](#) B1 00000000 [];
[US2003206320](#) A1 00000000 [];
[US6650447](#) B2 00000000 [];
[US2004223330](#) A1 00000000 [];
[US4631416](#) A 00000000 [];
[US2005270855](#) A1 00000000 [];
[US2005270856](#) A1 00000000 [];
[US2005286388](#) A1 00000000 [];
[US2006274393](#) A1 00000000 [];
[US2006274394](#) A1 00000000 [];
[US2006275670](#) A1 00000000 [];
[US2006279818](#) A1 00000000 [];
[US2006279819](#) A1 00000000 [];
[US2006279820](#) A1 00000000 [];
[US2006279821](#) A1 00000000 [];
[US2006279822](#) A1 00000000 [];
[US2006279823](#) A1 00000000 [];
[US2006279824](#) A1 00000000 [];
[US2006280096](#) A1 00000000 [];
[US2006281021](#) A1 00000000 [];
[US2006291022](#) A1 00000000 [];
[US2006291023](#) A1 00000000 []

- CCI - [G02B7/004](#) ; [G02B7/005](#) ; [G11B7/22](#)
- CCA - [G11B7/0065](#)
- CI - G02B7/004 (EP)
 - G02B7/005 (EP)
 - G11B7/22 (EP)
- CA - G11B7/0065 (EP)
- PA - INPHASE TECH INC [US]

AB

- The present invention relates to embodiments of: (1) a unitary holographic drive head assembly mounting structure; (2) an assembly comprising a unitary holographic drive head assembly mounting structure and a plurality of holographic drive head components and/or subassemblies; (3) a subassembly comprising a spatial light modulator, detector array, and a beam **splitter**; (4) a device comprising a spatial light modulator and a physical aperture positioned over or an imaged aperture projected onto the photoactive area of the spatial light modulator; (5) a **system** for optically aligning or pointing a laser in a holographic drive head assembly; (6) a light source subassembly comprising a laser, a fiber coupling lens; and an optical fiber having a fiber connector ready output end; and (7) a light source subsystem comprising a laser source, beam conditioning optics, fiber coupling optics for receiving the conditioned light beam, and a **fiber optic** connector for receiving the conditioned light beam from the fiber coupling optics.

PN - [US2009101800](#) A1 20090423

PR - US20080257305
20081023; US20070000257P 20071023

DT - *; Rep

109

125

150

100

190 - 4032 Receiver

CCI - [G01D5/35316](#) ; [G01D5/3539](#) ;
[H04J14/02](#)

- G01D5/35316 (EP)
- G01D5/3539 (EP)
- G01J1/0407 (US)
- G01M11/30 (US)
- H04J14/02 (EP)

PA - (B2)
US SENSOR SYSTEMS INC [US]

Fiber-optic interrogator with normalization filters

AB

- (A1)
A **fiber optic** interrogator includes a broadband optical source, at least one beam **splitter** directing output of the optical source to an array of **fiber optic** gratings, at least one linear transmission or reflection filter, at least one optical receiver and at least one amplifier associated with each receiver.

In one aspect of the invention, a linear transmission filter is used to convert the change in center wavelength of a grating reflectivity spectrum to a change in intensity, which is proportional to the change in the grating central wavelength. In another aspect of the invention, a pair of opposite-sloped linear transmission filters are utilized to normalize the received and filtered reflections with respect to total optical power. In another aspect of the invention, the optical source is pulsed, and return pulses from each **fiber optic** grating to be measured are sampled by the interrogator at different times. In another aspect of the invention, the source driver randomizes ripple phase versus wavelength to reduce wavelength measurement error. In another aspect of the invention, active closed-loop circuits are added to the receiver amplifiers to stabilize the amplifier output. In yet another aspect of the invention, a temperature-controlled compensating array of **fiber optic** gratings is interrogated each time the measurement array of gratings is interrogated. In still another aspect of the invention, a fast reset analog integrator is added to the amplifier stage (s) to improve the signal detection threshold. In another aspect of the invention, the wavelength measurement is compensated for the effects of one grating shading another.

- (B2)

A **fiber optic** interrogator includes a broadband optical source, at least one beam **splitter** directing output of the optical source to an array of **fiber optic** gratings, at least one linear transmission or reflection filter, at least one optical receiver and at least one amplifier associated with each receiver. In one aspect of the invention, a pair of opposite-sloped linear transmission filters are utilized to normalize the received and filtered reflections with respect to total optical power.

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PN - [CN101283301](#) A 20081008

PNFP - CN101283301B B 20120620

PR - WO2006US29172 20060726; US20050199826 20050809

AP - CN20068037574 20060726

DT - I

CCI - [G02B6/2817](#)

CCA - [G02B6/266](#)

CI - G02B6/2817 (EP)

CA - G02B6/266 (EP)

PA - (A)
BOEING CO [US]
(B)
BOEING CO

TI - (A B)
Systems and methods for distributing signals communicated on **fiber optic** transmission lines

AB - (A B)
Methods and systems for distributing signals communicated on **fiber optic** transmission lines are disclosed. In one embodiment, a **fiber optic** communications **system** includes a transmitter operable to transmit an optical signal, and at least one receiver operable to receive an optical signal. A **fiber optic splitter** assembly includes a first **optic fiber** coupled to the transmitter and one or more second optic fibers adjacent to the first **optic fiber** and coupled to the one or more receivers. The respective terminal ends of the first **optic fiber** and the one or more second optic fibers are spaced apart from a concave optical reflector that is operable to receive optical signals from the first optical fiber and to reflect the optical signals towards the one or more second optic fibers.

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PN - [WO2007027925](#) A2 20070308

PNFP - WO2007027925 A3 20070412

PR - US20050713622P 20050831; US20050249726 20051013

AP - WO2006US34080 20060830

DT - **

CT - [EP] ISR (A3)
[EP0463749](#) A2 00000000 [X] (BICC PLC [GB]; CORNING LTD [GB])
[X] 1-14
* abstract *;
[WO0075706](#) A2 00000000 [A] (ADC TELECOMMUNICATIONS INC [US])
[A] 1-14
* abstract *;
[US5930111](#) A 00000000 [A] (YAMAZAKI NAOYA [JP] ET AL)
[A] 1-14
* abstract *;
[US5535298](#) A 00000000 [A] (FASNACHT MATTHEW J [US] ET AL)
[A] 1-14
* abstract *;
[EP0350245](#) A2 00000000 [A] (BICC PLC [GB]; CORNING LTD [GB])
[A] 1
* abstract *;
[GB2355600](#) A 00000000 [A] (APW ELECTRONICS LTD [GB])
[A] 1
* abstract *;
[WO0054087](#) A1 00000000 [A] (ERICSSON TELEFON AB L M [SE]; SERRANDER HANS [SE]; ANDERSSON PER ANDER)
[A] 1
* abstract *;
[EP0903595](#) A2 00000000 [A] (SIECOR CORP [US])
[A] 1
* abstract *

CCI - [G02B6/4452](#)

CCA - [Y10T29/49002](#)

CI - G02B6/4452 (EP)

CA - Y10T29/49002 (EP, US)

PA - (A2 A3)
ADC TELECOMMUNICATIONS INC [US]; KOWALCZYK SCOTT C [US]; ELLENS DOUGLAS C [US];
SOLHEID JAMES J [US]

TI - (A2)
CABINET INCLUDING OPTICAL BULKHEAD PLATE FOR BLOWN FIBER **SYSTEM**

- (A3)
CABINET INCLUDING BULKHEAD PLATE FOR BLOWN OPTICAL FIBER **SYSTEM**

AB - (A2 A3)
A cabinet is provided for managing the connections between a feeder cable and a distribution cable wherein the distribution cable is a blown optical fiber. The cabinet includes shelves for holding splices between the feeder cable and the distribution cable. The shelves also include microduct holders for holding each of the microducts associated with the distribution cable. The cabinet also includes splicing between the feeder cable and a **fiber optic splitter**. Preferably a fiber termination is provided between the splice and the **splitter**. The cabinet also includes termination panel between the **splitter** outputs and distribution pigtails. A connector storage area is also provided. The distribution pigtails are spliced on spliced trays to the blown fibers passed through the microducts.

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PN - [WO2007021484](#) A1 20070222

PR - US20050199826 20050809

AP - WO2006US29172 20060726

DT - **

CT - [EP] ISR (A1)
[US3883223](#) A 19750513 [X] (HUDSON MARSHALL C)
[X] 1-4,7-12,15-23
* figure 1 *
* figure 3 *;
[FR2580411](#) A1 19861017 [X] (CEDEPE SA [FR])
[X] 1-3,5-14,16-24
* figure 7 *
* figure 3 *;
[EP0162627](#) A2 19851127 [X] (KAPTRON INC [US])
[X] 1-3,7-12,16-23
* figure 1A *

CCI - [G02B6/2817](#)

CCA - [G02B6/266](#)

CI - G02B6/2817 (EP)

CA - G02B6/266 (EP)

PA - BOEING CO [US]; CIANCOTTO FRANK T [US]

TI - SYSTEMS AND METHODS FOR DISTRIBUTING SIGNALS COMMUNICATED ON **FIBER OPTIC**
TRANSMISSION LINES

AB - Methods and systems for distributing signals communicated on **fiber optic** transmission lines are disclosed. In one embodiment, a **fiber optic** communications **system** includes a transmitter operable to transmit an optical signal, and at least one receiver operable to receive an optical signal. A **fiber optic splitter** assembly includes a first **optic fiber** coupled to the transmitter and one or more second optic fibers adjacent to the first **optic fiber** and coupled to the one or more receivers. The respective terminal ends of the first **optic fiber** and the one or more second optic fibers are spaced apart from a concave optical reflector that is operable to receive optical signals from the first optical fiber and to reflect the optical signals towards the one or more second optic fibers.

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PN - [WO2006127387](#) A2 20061130

PNFP - WO2006127387 A3 20070308

PR - US20050137855 20050525

AP - WO2006US19222 20060518

DT - *; Rep

CT - |EP| ISR (A3)
[WO0065397](#) A1 00000000 [A] (RAYCHEM SA NV [BE]; TYCO ELECTRONICS LTD UK [GB]; WAMBEKE ALAIN[BE];)
 [A] 1-19
 * page 6, line 22 - page 8, line 8 *
 * page 9, line 10 - page 11, line 11 *
 * figure 1 *

CCI - [G02B6/4442](#)

CI - G02B6/4442 (EP)

PA - (A2 A3)
 ADC TELECOMMUNICATIONS INC [US]; BARTH MICHAEL K [US]; FERRIS MATTHEW D [US];
 VONGSENG SOUTSADA [US]

TI - (A2 A3)
 OUTSIDE PLANT FIBER DISTRIBUTION ENCLOSURE WITH RADIAL ARRANGEMENT

AB - (A2 A3)
 A telecommunications optical fiber distribution **system** is disclosed. The **system** comprises a support structure defining a longitudinal axis. A plurality of **fiber optic** signal **splitters** are arranged radially with respect to the longitudinal axis defined by the support structure, each **fiber optic** signal **splitter** including a signal input location and a split signal output location. A plurality of adapters mounted to the support structure are arranged radially around the longitudinal axis defined by the support structure. Each adapter includes a first connection end for receiving a connector terminated to an output cable extending from the output location of the **splitter** and a second connection end for receiving a connector terminated to an outgoing distribution cable.

74/140 © EPODOC / EPO

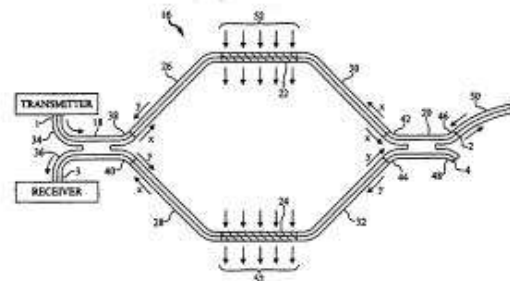
PN - [US5400418](#) A 19950321

PR - US19920986150 19921204

AP - US19920986150 19921204

DT - *; Rep

CT - || STSE (A)
[US3536375](#) A 00000000 [];
[US4464022](#) A 00000000 [];
[US4557553](#) A 00000000 [];
[US4609257](#) A 00000000 [];
[US4650289](#) A 00000000 [];
[US4671621](#) A 00000000 [];
[US4685773](#) A 00000000 [];
[US4753497](#) A 00000000 [];
[US4783851](#) A 00000000 [];
[US4859014](#) A 00000000 [];
[US4969717](#) A 00000000 [];
[US4973119](#) A 00000000 [];
[US4973120](#) A 00000000 [];
[US4973124](#) A 00000000 [];
[US4974944](#) A 00000000 [];
[US4978189](#) A 00000000 [];
[US4987567](#) A 00000000 [];
[US4988170](#) A 00000000 [];
[US5031983](#) A 00000000 [];
[US5033830](#) A 00000000 [];



	US5303314 A 00000000 []; EP0522843 A2 00000000 []
CTNP	- STSE (A) [] - Stolen et al, Faraday rotation in highly birefringent optical fibers , Appliedoptics, vol. 19, No. 6, 15 Mar. 1980pp. 842 845. [] - Fujii, Yohji, High Isolation Polarization Independent Optical Circulator Coupled with Single Mode with Single Mode Fibers , Journal of Lightwave Technology, vol. 9, No. 4, Apr. 1991pp. 456 460. [] - Fujii, Yohji, High14 Isolation Polarization Independent Optical Circulator , Journal of Lightwave Technology, vol. 9, No. 10, Oct., 1991pp. 1238 1243. [] - Iwamura, Hidetoshi, et al., Simple Polarisation Independent Optical Circulator for Optical Transmission Systems , Electronics Letters, Dec. 6, 1979, vol. 15, No. 25pp. 830 831. [] - Mizumoto, T., et al., Verification of Waveguide Type Optical Circulator Operation , Electronic Letters, Feb. 1, 1990, vol. 26No. 3. [] - Okamura, Yasuyuki, et al., Integrated Optical Isolator and Circulator Using Nonreciprocal Phase Shifters: A Proposal , Applied Optics, vol. 23, No. 11, Jun. 1, 1984pp. 1886 1889. [] - Shirasaki, Masataka, et al., A Compact Polarization Independent Optical Circulator , Applied Optics, Aug. 1, 1981, vol. 20, No. 15pp. 2683 2687. [] - Turner, E. H., et al., Fiber Faraday Circulator or Isolator , Optics Letters, vol. 6, No. 7, Jul., 1981pp. 322 323. [] - Yokohama, I., et al., Fibre Optic Polarising Beam Splitter Employing Birefringent Fibre Coupler , Electronics Letter, May 9, 1985, vol. 21, No. 10pp. 415 416. [] - Yokohama, I., et al, Polarisation Independent Optical Circulator Consisting of Two Fibre Optic Polarising Beam Splitters and Two Yig Spherical Lenses , Electronics Letters, Mar. 26, 1986, vol. 22, No. 7pp. 370 372.
CCI	- G02B6/105 ; G02B6/264 ; G02B6/4246 ; G02F1/0955
CI	- G02B6/105 (EP) - G02B6/264 (EP) - G02B6/4246 (EP) - G02F1/0955 (EP)
PA	- WILLIAMS TELECOMMUNICATION GRO [US]; UNIV OKLAHOMA STATE [US]

- TI - Polarization independent all-fiber optical circulator
- AB - There is provided an optical circulator (16) for bidirectional communication on a **fiber optic** communication transmission **system**. Polarization preserving single-mode fiber lengths (26), (28) connect all-fiber polarization **splitter** (18) with the Faraday single-mode fiber lengths (22), (24). Polarization preserving single-mode fiber lengths (30), (32) connect the opposite ends of Faraday single-mode fiber lengths (22), (24) with all-fiber polarization **splitter** (20). A communication transmitter is connected to **splitter** (18) at port 1, and a communication receiver is connected to **splitter** (18) at port 3. A **fiber optic** communication link (50) is connected to **splitter** (20) at port 2. The components of optical circulator (16) cooperate such that light transmitted into port 1 exits from port 2, and light transmitted into port 2 exits from port 3.

75/140 © EPODOC / EPO

- PN - [US6542267](#) B1 20030401
- PR - US19970979425 19971124
- AP - US19970979425 19971124
- DT - *, Rep
- CT - || STSE (B1)
[US4965790](#) A 00000000 [];
[US5228105](#) A 00000000 [];
[US5267122](#) A 00000000 [];
[US5282207](#) A 00000000 [];
[US5349457](#) A 00000000 [];
[US5373386](#) A 00000000 [];
[US5526152](#) A 00000000 [];
[US5600469](#) A 00000000 [];
[US5602884](#) A 00000000 [];
[US5621728](#) A 00000000 [];
[US5781320](#) A 00000000 [];
[US5867496](#) A 00000000 []
- CCI - [H04L12/2854](#) ; [H04Q11/0062](#)
- CCA - [G02B6/28](#) ; [H04Q11/0067](#) ; [H04Q11/0071](#) ; [H04Q2011/0088](#)
- CI - H04L12/2854 (EP)
H04Q11/0062 (EP)
- CA - G02B6/28 (EP)
H04Q11/0067 (EP)
H04Q11/0071 (EP)
H04Q2011/0088 (EP)
- TI - Light ramp 2000 **fiber optic** local access architecture
- AB - A passive fiber local access architecture and signaling plan is disclosed which enables the local exchange network to meet the need, as defined by the International Telecommunications

Union(ITU) in References 7 and 8, for an economic means of providing a multitude of services to subscribers over a single medium. Integrating disparate signals compatibly and symmetrically over one medium dictates that all digital transmission and signaling at speeds in excess of 100 Mbps be used on the link. The additional bandwidth needed to support this expanded capacity demand points to glass fiber as the most suitable candidate for this role. A failure tolerant, diversely routed redundant ring cabling architecture provides a dedicated fiber or fiber pair to each premises from the local exchange carrier POP, eliminating the need for intermediate nodes. line power, signal **splitters**, amplifiers or metallic loops in the last mile. 12x12 cross connect units are deployed in the outside cable plant to meet user demand anywhere along the route, serving 500 or more homes from a single POP. The passive fiber subscriber line is activated and controlled by a set of out of band digital supervision signaling protocols that are compatible with Signaling **System 7**. These protocols replace existing DC loop closure supervision. Firmware is provided at both POP and subscriber ends of the link to administer and monitor link operations.

76/140 © EPODOC / EPO

PN - [US5365337](#) A 19941115

PR - US19920967795 19921028

AP - US19920967795 19921028

DT - **

CT - || STSE (A)

[US4299490](#) A 00000000 [];

[US4828389](#) A 00000000 [];

[US4881817](#) A 00000000 [];

[US5037205](#) A 00000000 []

CTNP - || STSE (A)

[] - Page, Jerry L., Fiber Gyro with Electro Optic Phase Modulation , SPIE, vol. 719, 1986pp. 53 56.

[] - Rashleigh, S. C. and Stolen, R. H., Preservation of Polarization in Single Mode Fibers , Fiberoptic Technology, May 1983pp. 155 161.

[] - Fredricks, R. J. and Ulrich, R., Phase Error Bounds of Fibre Gyro with Imperfect Polariser/Depolariser , Electronic Letters, vol. 20(8), 330 332 (1984)pp. 277 278.

[] - Loeber, A. P., Depolarization of White Light by a Birefringent Crystal II. The Lyot Depolarizer , Journal Optical Society of America, vol. 72, No. 5/May 1982pp. 650 656.

[] - Burns, William K, Degree of Polarization in the Lyot Depolarizer , Journal of Lightwave Technology, vol. LT 1, No. 3, Sep. 1983pp. 475 479.

CCI - [G01C19/721](#) ; [G01C19/728](#)

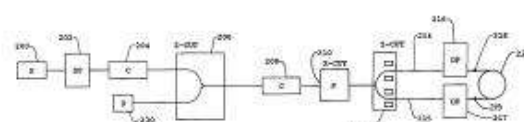
CI - G01C19/721 (EP)

- G01C19/728 (EP)

PA - SMITHS IND AEROSPACE & DEFENSE [US]

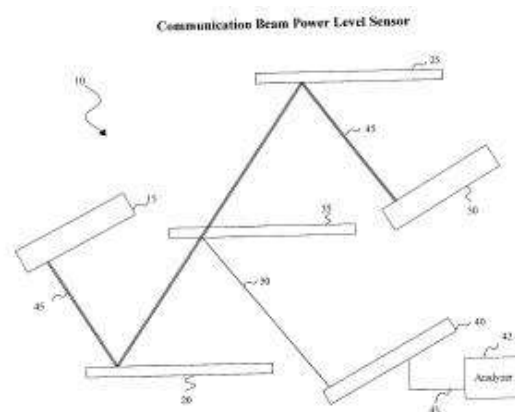
TI - Method and apparatus for compensating for the residual birefringence in interferometric **fiber-optic** gyros

AB - An interferometric **fiber-optic** gyro **system** includes a light source and



a plurality of optical fiber rings employed to measure angular displacement along three axes. Optical circuit elements interposed between the source and the rings include an optical switch for periodically applying the optical signal to each of the rings individually along three separate optical transmission paths. Included in each of the optical transmission paths is a modal filter, including a polarizer, and a beam **splitter** which provides two separate beams to the optical ring for counter-propagation through the ring. Compensating birefringent devices are added in the optical circuits to compensate for a residual birefringence introduced by the various optical elements in the circuits. The characteristics of the compensating devices consist of predetermined lengths of polarization preserving, single-mode optical fiber. The birefringence of each of the optical devices is characterized in terms of a total number of beat lengths. A plus or minus sign is assigned to the value of the beat lengths, depending upon the optical axis of the optical device being measured. The birefringent compensating optical fiber is selected so as to cancel the net birefringent effect of the other optical elements in the optical circuit expressed in beat length. The compensating fiber may be distributed in the optical circuit subject to the requirement that each section of optical fiber has a minimum length to assure single-mode transmission.

77/140 © EPODOC / EPO
 PN - [US2003231295](#) A1 20031218
 PNFP - US6680776 B2 20040120
 PR - US20010960274 20010920
 AP - US20010960274 20010920
 DT - *, Rep
 CT - || STSE (B2)
 [US5048969](#) A 00000000 [];
 [US2002071627](#) A1 00000000 [];
 [US2002094187](#) A1 00000000 []
 CCI - [G01J1/4257](#) ; [G02B6/3512](#)
 CCA - [G02B6/2817](#) ; [G02B6/3588](#) ;
 [G02B6/4249](#)
 CI - G01J1/4257 (EP)
 G02B6/3512 (EP)
 CA - G02B6/2817 (EP)
 G02B6/3588 (EP)



- G02B6/4249 (EP)
- PA - (B2)
TREX ENTPR CORP [US]
- TI - (A1)
METHOD AND APPARATUS FOR SENSING A
POWER LEVEL OF A COMMUNICATIONS
BEAM IN A **FIBER OPTIC** SWITCH
- (B2)
Method and apparatus for sensing a
power level of a communications beam
in a **fiber optic** switch
- AB - (A1 B2)
A method and **system** for detecting a
power level of a communication light
beam is disclosed. In one embodiment,
a **fiber optic** switch beam generation
element generates a communication light
beam that may be received at a
beam **splitter**. The beam **splitter** may be
configured to produce a reflected light
beam that reflects a portion of the
communication light beam, while
permitting at least a portion of the
communication light beam to propagate
through the beam **splitter**. A reflected
light beam detector may be used to
detect the reflected light beam. The
power level (e.g., light energy) of the
communication light beam may then be
calculated based on the light energy of
the reflected light beam.

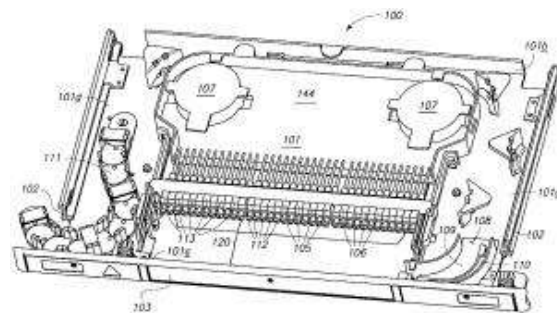
78/140 © EPODOC / EPO

- PN - [US4712004](#) A 19871208
- PR - US19860898318 19860820
- AP - US19860898318 19860820
- DT - *, Rep
- CT - || STSE (A)
[US4290146](#) A 00000000 [];
[US4321831](#) A 00000000 [];
[US4368645](#) A 00000000 [];
[US4442350](#) A 00000000 [];
[US4493995](#) A 00000000 [];
[US4514860](#) A 00000000 [];
[US4515473](#) A 00000000 [];
[US4519252](#) A 00000000 [];
[US4523092](#) A 00000000 [];
[US4564755](#) A 00000000 [];
[US4644153](#) A 00000000 []
- CTNP - || STSE (A)
[] - Spectral Linewidth Dependence of Photoelastic Sensor Performance, SpillmanPatriquin
and Kline 1985.
[] - Multimode Fiber Optic Sensors Based on the Photoelastic EffectSpillman and McMahon
1983.
- CCI - [G01L1/241](#)
- CI - G01L1/241 (EP)

- PA - SIMMONDS PRECISION PRODUCTS [US]
- TI - Method and apparatus for compensating **fiber optic** lead and connector losses in a **fiber optic** sensor by using a broadband optical source and multiple wave retardation
- AB - Method and apparatus for compensating a phototransducer **system** for **fiber optic** transmission losses and optical source power fluctuations includes generating a broadband source light beam having a plurality of spectral components. The source light beam is transmitted to a polarizer which polarizes the light beam and directs it to a multiple wave retardation device. The retardation device retards the spectral components of the polarized light beam. The retarded light beam is injected into a photoelastic transducer which modulates the polarizations of the retarded light beam in accordance with pressure applied to the transducer. Each spectral component of the retarded light beam will be modulated by the transducer. However, the broadband light beam will remain, in sum, relatively invariant to the applied pressure. The modulated light beam is then passed through an analyzer, injected into a **fiber optic** cable, and transmitted to a beam **splitter**. The beam **splitter** provides a first light beam to a photodetector which detects the light intensity of all spectral components, which intensity is only affected by transmission losses and power fluctuations within the **system**. A second portion of the split light beam is passed through a narrow passband filter which passes only certain portions of the spectral components which do vary with the applied pressure and transmission losses and power fluctuations. The filtered signal is detected by a second photodetector. The photodetectors provide electrical signals to a processor which outputs an electrical signal corresponding to a ratio of the first and second electrical signals.

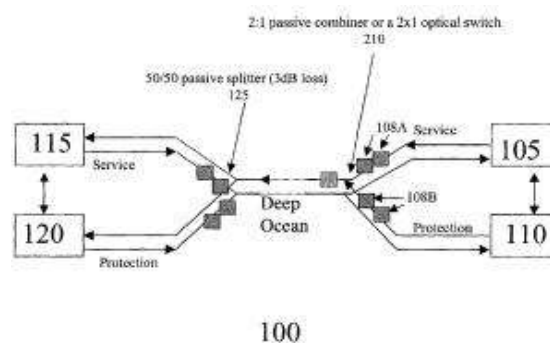
79/140 © EPODOC / EPO

- PN - [US2002181922](#) A1 20021205
- PNFP - US6792190 B2 20040914
- PR - US20010873097 20010601
- AP - US20010873097 20010601
- DT - *, Rep
- CT - || STSE (B2)
[US5339379](#) A 19940816 [] (KUTSCH
 DUANE B [US], et al);
[US5353367](#) A 19941004 []
 [CZOSNOWSKI W MICHAL [CA], et al);
[US5402515](#) A 19950328 [] (VIDACOVICH
 KENNTH J [US], et al);
[US5511144](#) A 19960423 [] (HAWKINS
 PAUL D [US], et al);
[US6504986](#) B1 20030107 [] (WAMBEKE
 ALAIN [BE], et al)
- CCI - [G02B6/3897](#) ; [G02B6/4453](#) ;
[G02B6/4461](#)
- CI - G02B6/3897 (EP)
 - G02B6/4453 (EP)
 - G02B6/4461 (EP)
- PA - (B2)
 TELECOM INC[US]
- TI - (A1 B2)
 High density **fiber optic**
splitter/connector tray **system**
- AB - (A1 B2)
 A **fiber optic splitter** tray **system** with a
 tray framework with a front end, a rear
 end, a first side and a second side; a
 plurality of **fiber optic splitters** mounted
 generally transverse to the tray



framework, toward the rear end of the tray framework; a plurality of **fiber optic** adapters mounted generally longitudinally to the framework, the adapters being recessed from the front end of the framework such that **fiber optic** cables operatively attached to the adapters may be housed within the front end while maintaining a predetermined minimum bend radius in the cables. This may further include a front cable guard movably attached to the tray framework proximate the front end such that the guard is movable vertically downward from a guarding position to a downward position when the tray framework is in an outward position, and further wherein the guard is slidable rearward from the downward position to a downward retracted position.

- 80/140** © EPODOC / EPO
- PN - [US2002167694](#) A1 20021114
- PNFP - US6556319 B2 20030429
- PR - US20010850141 20010508
- AP - US20010850141 20010508
- DT - **
- CT - || STSE (B2)
[US5675432](#) A 19971007 [] (KOSAKA JUNYA[JP]);
[US6016219](#) A 20000118 [] (FATEHI MOHAMMAD T [US], et al);
[US6057948](#) A 20000502 [] (MIZRAHI VICTOR [US])
- CCI - [H04B10/032](#) ; [H04J14/029](#) ;
[H04Q11/0062](#)
- CCA - [H04J14/0279](#) ; [H04J14/0283](#) ;
[H04Q2011/0081](#)
- CI - H04B10/032 (EP)
H04J14/029 (EP)
H04Q11/0062 (EP)
- CA - H04J14/0279 (EP)
H04J14/0283 (EP)
H04Q2011/0081 (EP)
- PA - (B2)
DORSAL NETWORKS INC [US]
- TI - (A1 B2)
Split redundant trunk architecture using passive **splitters** and path switching
- AB - (A1 B2)
A collapsed ring **fiber optic system** includes a service path and a protection path provides at a shallow water portion of the **fiber optic system**, to deal with any fiber cuts that may occur at the shallow



water portion without loss of main trunk bandwidth. The service and protection paths meet at a branch point, which is preferably located at a deep water portion of the **fiber optic system**. A passive combiner or a 1x2 switch is provided at the branch unit, along with a detector and a processor, to determine whether any signals are being received from the service path, and if not, to reconfigure the **system** to accept signals from the protection path. At another shallow water portion of the **fiber optic system**, nearby where a destination is located, the signal provided on the optical path over the deep water portion is split into a service path and a protection path, to provide redundancy to deal with any fiber cuts that may occur. The **fiber optic system** may also be utilized for a land-based **system**, having high probability of fiber cut regions and low probability of fiber cut regions.

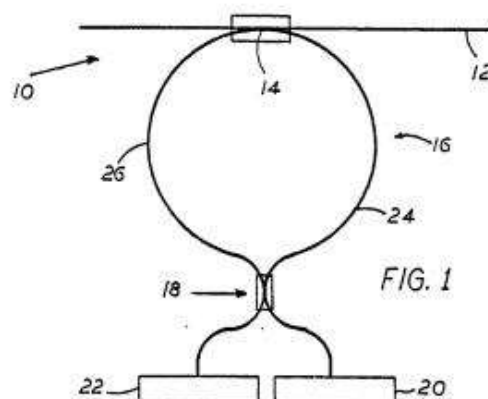
81/140 © EPODOC / EPO

- PN - [US6353216](#) B1 20020305
- PR - IL19960118030 19960425
- AP - US19970843570 19970418
- DT - *, Rep
- CT - || STSE (B1)
[US4342905](#) A 19820803 [] (FUJII NORIO, et al);
[US4844617](#) A 19890704 [] (KELDERMAN HERMAN F [US], et al);
[US5161052](#) A 19921103 [] (HILL JAMES D [US]);
[US5483055](#) A 19960109 [] (THOMPSON TIMOTHY V [US], et al);
[US5537247](#) A 19960716 [] (XIAO GUOQING [US]);
[US5543918](#) A 19960806 [] (ABRAHAM DAVID W [US], et al);
[US5731588](#) A 19980324 [] (HELL STEFAN [DE], et al);
[US5785651](#) A 19980728 [] (KUHN WILLIAM P [US], et al)
- CCI - [G02B21/006](#) ; [G02B21/0064](#)
- CI - G02B21/006 (EP)
G02B21/0064 (EP)
- PA - CREOSCITEX CORP LTD [IL]
- TI - Confocal measurement and diagnostic **system**
- AB - A confocal optical **system** is disclosed that utilizes **fiber optic** components in its construction. The **system** includes a light source, two detection units, an aperture and an optical element all optically coupled to a **fiber optic** coupler via optical fibers. In addition, a novel automatic focusing device is disclosed which utilizes chromatic aberration to maintain a target object in optimal focus. The device includes two light sources having different wavelengths of light, an optical element, an aperture, two detection units and a beam **splitter**. One light source is used to achieve initial focus and to illuminate the target object. The second light source is used to maintain the target object in optical focus. Light reflected off the target object is measured by one of the detection units. The magnitude of the light of the second wavelength measured by the detection unit is utilized to maintain focus. A second detection units is utilized to measure the intensities of the two light sources to yield normalized results. Further, a method of diagnosing an optical **system** is also disclosed. The method includes comparing a current set of readings of light against a set of reference readings taken at an earlier point in time. If the difference

exceeds a predetermined threshold, a problem is indicated.

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PN - [US4810052](#) A 19890307
PR - US19860816808 19860107
AP - US19860816808 19860107
DT - **
CT - || STSE (A)
[US4166946](#) A 19790904 [] (CHOWN
MARTIN [GB], et al);
[US4301543](#) A 19811117 [] (PALMER
JOHN P);
[US4307933](#) A 19811229 [] (PALMER
JOHN P, et al);
[US4315666](#) A 19820216 [] (HICKS JR
JOHN W);
[US4317614](#) A 19820302 [] (PALMER
JOHN P);
[US4325636](#) A 19820420 [] (SCHIFFNER
GERHARD);
[US4398794](#) A 19830816 [] (PALMER
JOHN P [US], et al);
[US4431260](#) A 19840214 [] (PALMER
JOHN P [US]);
[US4461536](#) A 19840724 [] (SHAW
HERBERT J [US], et al);
[US4462699](#) A 19840731 [] (SHAW
HERBERT J [US], et al);
[US4490163](#) A 19841225 [] (JOCHER
CORNELIS M G [NL], et al);
[US4550974](#) A 19851105 [] (MURPHY
KENT A [US]);
[US4553811](#) A 19851119 [] (BECKER
REINHARD [DE], et al);
[US4553814](#) A 19851119 [] (BAHL
ANDREW L [US], et al);
[US4556279](#) A 19851203 [] (SHAW
HERBERT J [US], et al);
[US4557553](#) A 19851210 [] (MCLANDRICH MATTHEW N [US]);
[US4558920](#) A 19851217 [] (NEWTON
STEVEN A [US], et al);
[US4564262](#) A 19860114 [] (SHAW
HERBERT J [US]);
[US4564417](#) A 19860114 [] (SCHOEN
JOSEF [DE], et al);
[US4569569](#) A 19860211 [] (STEWART
WILLIAM J [GB]);
[US4575180](#) A 19860311 [] (CHANG
DAVID B [US]);
[US4575183](#) A 19860311 [] (PARCHET
PIERRE [FR], et al);
[US4581530](#) A 19860408 [] (BROGARDH
TORGNY [SE], et al);
[US4586783](#) A 19860506 [] (CAMPBELL
BRUCE D [US], et al);
[US4586784](#) A 19860506 [] (TREMBLAY
YVES [CA], et al);



	US4588256 A 19860513 [] (ONSTOTT JAMES R [US], et al); US4589725 A 19860520 [] (DYOTT RICHARD B [US]); US4591237 A 19860527 [] (LAUDE JEAN-PIERRE [FR]); US4591372 A 19860527 [] (BRICHENO TERRY [GB], et al); US4593988 A 19860610 [] (AKIYAMA HIDEAKI [JP], et al); US4595839 A 19860617 [] (BRAUN STEVEN W [US], et al); US4601535 A 19860722 [] (TANAKA TOSHIKI [JP], et al); US4601541 A 19860722 [] (SHAW HERBERT J [US], et al); US4611884 A 19860916 [] (ROBERTS HAROLD [US]); US4632513 A 19861230 [] (STOWE DAVID W [US], et al); US4634218 A 19870106 [] (HICKS JR JOHN W [US]); FR2473188 A1 19810710 [] (TRANSMISSIONS OPTIQ CIE LYONNA [FR]); FR2533714 A1 19840330 [] (THOMSON CSF [FR]); JPH0590599 A 19930409 [] (ROHM CO LTD); JPH05214430 A 19930824 [] (NIPPON STEEL CORP); JPS536052 A 19780120 [] (MITSUBISHI ELECTRIC CORP); JPH05274442 A 19931022 []; JPS5391752 A 19780811 [] (NIPPON TELEGRAPH&TELEPHONE); JPS54126058 A 19790929 [] (OKI ELECTRIC IND CO LTD); JPS54118255 A 19790913 [] (MATSUSHITA ELECTRIC IND CO LTD); JPS54101334 A 19790809 [] (NIPPON TELEGRAPH&TELEPHONE); JPS58211119 A 19831208 [] (NIPPON ELECTRIC CO)
CTNP	- [] STSE (A) [] - R. A. Bergh, M. J. F. Dignonnet, H. C. Lefevre, S. A. Newton, and H. J. ShawSingle Mode Fiber Optic Components. [] - Kapany et al., Coherent Interactions Between Optical Waveguides and Lasers , Journal of the Optical Society of America, 1968, vol. 58, No. 9pp. 1176 .
CCI	- G02B6/24 ; G02B6/28 ; G02B6/2826
CI	- G02B6/24 (EP) - G02B6/28 (EP) - G02B6/2826 (EP)
PA	- LITTON SYSTEMS INC [US]

- TI - **Fiber optic** bidirectional data bus tap
- AB - A **fiber optic** data bus tap includes a tap coupler for coupling signals traveling in either direction in a data bus fiber into one of two lengths of a tap fiber. The signals are then guided to a receiver. The tap fiber may include a **fiber optic** coupler formed between the two lengths thereof for splitting the signal coupled from the data bus between the two lengths of the tap fiber so that they both carry the same information. The receiver is couple to one of the two lengths of the tap fiber. One of the lengths of the tap fiber may terminate in a mirror so that signals are reflected back to the tap coupler where a portion of the reflected signal is transmitted to the receiver. A transmitter may be coupled to the power **splitter** for supplying signals to the tap fiber for input to the data bus. The **system** may employ a light emitting diode as a transceiver instead of having a separate receiver and transmitter.

83/140 © EPODOC / EPO

- PN - [USRE40358E](#) E 20080603
- PR - US20040810547 20040326; US20000689989 20001013; US19980122947 19980727
- AP - US20040810547 20040326
- DT - **
- CT - || STSE (E)
[US4652072](#) A 19870324 [] (ARASI JR LOUIS A [US]);
[US5212761](#) A 19930518 [] (PETRUNIA ALEXANDER [US]);
[US5975769](#) A 19991102 [] (LARSON GLEN M [US], et al);
[US2005145522](#) A1 20050707 [] (BLOODWORTH STEPHEN G [US], et al)
- CCI - [G02B6/4452](#)
- CCA - [G02B6/4457](#)
- CI - G02B6/4452 (EP)
- CA - G02B6/4457 (EP)
- PA - ADC TELECOMMUNICATIONS INC [US]
- TI - Outside plant fiber distribution apparatus and method
- AB - An outside plant fiber distribution apparatus includes a frame member and a plurality of **fiber optic** modules mounted to the frame member. The frame member includes upper and lower module mounting brackets. Each module includes a front and two mounting flanges, each mountable to one of the upper and lower module mounting brackets. At least one of the modules is configured as a connection module including a plurality of connection locations disposed along the front of the module. A rear of the module includes a cable notch region for receipt of a cable. At least one of the modules defines a storage module including first and second spools. In an interconnect **system**, the storage module includes a cable clamp for holding a second cable, the cables are connected through the connection locations of the connection module. In a cross-connect **system**, two connection modules are provided, and patch cords are used to connect the fronts of the connection modules. The modules may also house splices, and/or optical couplers, such as **splitters** and wave division multiplexers.

84/140 © EPODOC / EPO

PN - [US5859939](#) A 19990112

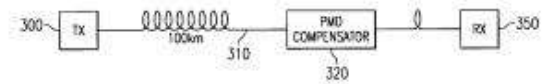
PR - US19970804986 19970225

AP - US19970804986 19970225

DT - **

CT - || STSE (A)
[US5068888](#) A 00000000 [];
[US5541927](#) A 00000000 [];
[US5561670](#) A 00000000 [];
[US5590181](#) A 00000000 [];
[US5646982](#) A 00000000 [];
[US5659412](#) A 00000000 []

CTNP - || STSE (A)
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	[] - Eriksson, Mbone: The Multicast BackboneAug. 1994.
	[] - Sullivan, Videoconferencing Arrives on the InternetAug. 1996.
	[] - Kahn, Videoconferencing Debuts on the InternetFeb. 1995.
CCI	- H04B10/2569
CI	- H04B10/2569 (EP)
PA	- MCI COMMUNICATIONS CORP [US]
TI	- Method and system for equalizing PMD using incremental delay switching
AB	- A polarization beam splitter separates the optical data signal into first and second orthogonally polarized optical signals. A first variable time delay element provides a first incremental propagation delay for the first polarized optical signal. A second variable time delay element provides a second incremental propagation delay for the second polarized optical signal. The first and second variable time delay elements consist of a series of optical switches optically interconnected by different incremental lengths of optical fiber. For example, 2x2 optical switches are provided for switching between a reference fiber segment and a respective delay fiber segment to provide a relative incremental propagation delay. A controller controls optical switches in the first and second variable switching delay elements to set first and second incremental propagation delays. In particular, the first and second polarized optical signals are incrementally delayed relative to one another so as to compensate for polarization mode dispersion. A beam combiner then combines the first and second signals to form an optical output data signal which can be detected accurately by a receiver without the effects of polarization mode dispersion. In this way, optical data signals can be reliably transmitted over greater distances along a long-haul fiber optic dispersive medium at even greater bit-rates and bandwidth.

PN - [US2008080828](#) A1 20080403

PNFP - US7474828 B2 20090106

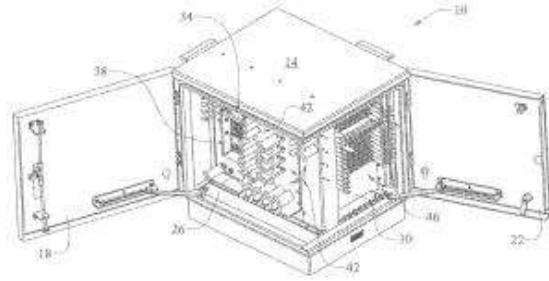
PR - US20070748717
20070515; US20060848901P 20061002

AP - US20070748717 20070515

DT - *, Rep

CT - || R141 (A1)
[US6044193](#) A 20000328 [] (SZENTESI OTTO I [US], et al);
[US6201919](#) B1 20010313 [] (PUETZ CURTIS LEE [US], et al);
[US6532332](#) B2 20030311 [] (SOLHEID JAMES J [US], et al);
[US7194181](#) B2 20070320 [] (HOLMBERG MATTHEW [US], et al);
[US2006093302](#) A1 20060504 [] (SOLHEID JAMES [US], et al);
[US6418262](#) B1 20020709 [] (PUETZ CURTIS LEE [US], et al);
[US6424781](#) B1 20020723 [] (PUETZ CURTIS LEE [US], et al);
[US6591053](#) B2 20030708 [] (FRITZ ROBERT L [US]);
[US2004175089](#) A1 20040909 [] (DAGLEY MARK R [US], et al);
[US6792191](#) B1 20040914 [] (CLAPP JR DONNIE R [US], et al);
[US6633717](#) B1 20031014 [] (KNIGHT PAUL A [US], et al);
[US6501899](#) B1 20021231 [] (MARRS SAMUEL M [US], et al);
[US2005281526](#) A1 20051222 [] (VONGSENG SOUTSADA [US], et al)

- || STSE (B2)
[US6044193](#) A 20000328 [] (SZENTESI OTTO I [US], et al);
[US6201919](#) B1 20010313 [] (PUETZ CURTIS LEE [US], et al);
[US6418262](#) B1 20020709 [] (PUETZ CURTIS LEE [US], et al);
[US6424781](#) B1 20020723 [] (PUETZ CURTIS LEE [US], et al);
[US6501899](#) B1 20021231 [] (MARRS SAMUEL M [US], et al);
[US6532332](#) B2 20030311 [] (SOLHEID JAMES J [US], et al);
[US6591053](#) B2 20030708 [] (FRITZ ROBERT L [US]);
[US6633717](#) B1 20031014 [] (KNIGHT PAUL A [US], et al);
[US6792191](#) B1 20040914 [] (CLAPP JR DONNIE R [US], et al);
[US7194181](#) B2 20070320 [] (HOLMBERG MATTHEW [US], et al);
[US2004175089](#) A1 20040909 [] (DAGLEY MARK R [US], et al);
[US2005281526](#) A1 20051222 []

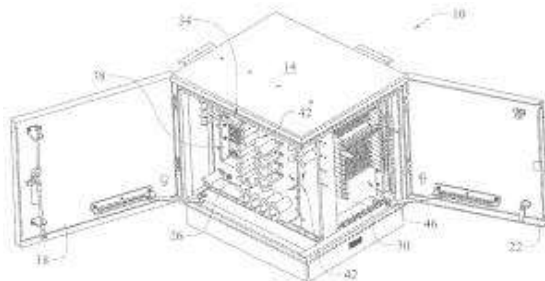


] (VONGSENG SOUTSADA [US], et al);
[US2006093302](#) A1 20060504 [
] (SOLHEID JAMES [US], et al)
 CCI - [G02B6/4452](#)
 CI - G02B6/4452 (EP)
 PA - (B2)
 EMERSON NETWORK POWER ENERGY [US]
 TI - (A1)
 SLACK LIMITING FIBER
 MANAGEMENT **SYSTEM** FOR AN **OPTIC**
FIBER DISTRIBUTION HUB
 - (B2)
 Slack limiting fiber management **system**
 for an **optic fiber** distribution hub
 AB - (A1 B2)
 In accordance with various
 embodiments of the present disclosure,
 an incremental slack limiting fiber
 management **system** for reducing slack
 in at least one **optic fiber** extending
 between an optic **splitter** module and a
 distribution module within a **fiber optic**
 distribution hub is provided. The
 incremental slack limiting fiber
 management **system** includes a plurality
 of slack limiting spools mounted to an
 internal panel of the distribution hub
 between the **splitter** and the distribution
 module.

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PN - [US2008080825](#) A1 20080403
 PR - US20070748633
 20070515; US20060848901P 20061002
 AP - US20070748633 20070515
 DT - *, Rep
 CT - || R141 (A1)
[US6539161](#) B2 00000000 [];
[US5625737](#) A 00000000 [];
[US7526174](#) B2 00000000 [];
[US5754723](#) A 00000000 [];
[US5127082](#) A 00000000 [];
[US6249634](#) B1 00000000 [];
[US6920274](#) B2 00000000 [];
[US2004218888](#) A1 00000000 [];
[US2006251374](#) A1 00000000 []

CCI - [G02B6/4452](#)
 CI - G02B6/4452 (EP)
 TI - **OPTIC FIBER** DISTRIBUTION HUB
 AB - In accordance with various
 embodiments, a **fiber optic** distribution
 hub is provided. In various
 implementations the fiber distribution
 hub includes at least one of a
 universal **splitter** holder, a distribution



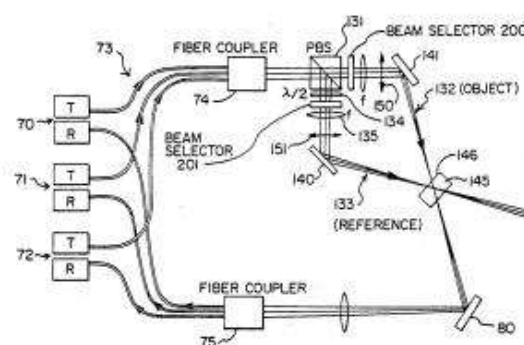
module including a plurality of sliding service connection circuit trays, and a distribution jumper incremental slack limiting fiber management **system**. The universal **splitter** holder is structured to retain any one of a plurality of **fiber optic splitters** within the distribution hub. The service connection circuit trays of the distribution module are structured to slidingly transition from a stowed position to a deployed position to allow independent access to any one of a plurality of **optic fiber** circuits retained within each respective circuit tray. The distribution jumper incremental slack limiting fiber management **system** is configured to reduce slack in at least one jumper fiber extending between the universal **splitter** holder and the distribution module within the distribution hub.

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PN - [US5136666](#) A 19920804
 PR - US19910741003 19910806
 AP - US19910741003 19910806
 DT - *, Rep
 CT - || STSE (A)
[US3157726](#) A 00000000 [];
[US3633034](#) A 00000000 [];
[US3761716](#) A 00000000 [];
[US4062618](#) A 00000000 [];
[US4770485](#) A 00000000 [];
[US4817206](#) A 00000000 [];
[US4877297](#) A 00000000 [];
[US4955691](#) A 00000000 []

CTNP - || STSE (A)
 [] -
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 [] -
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 Correlation Based Fiber sensor Using a Holographic Matched Filter, by P. Zhang, K. Bennet, & G. Indebetouw, Journal of Lightwave Technology, vol. 8, No. 7, Jul. 1990pp. 1123 1126.

CCI - [G02B6/24](#)
 CI - G02B6/24 (EP)
 PA - UNIV COLORADO FOUNDATION [US]



- TI - **Fiber optic** communication method and apparatus providing mode multiplexing and holographic demultiplexing
- AB - In a **fiber optic** communication **system**, an acoustooptic modulator operates to provide a coherent light beam that is data encoded in the beam's time domain, for example by intensity modulation of the beam. A spatial light modulator then operates to address encode the beam by modulating the beam in the space domain. The resulting data and address modulated beam possesses the property of orthogonality. This beam is now transmitted to the input of a multimode optical fiber. The speckle pattern that exits the output of the optical fiber also exhibits orthogonality. This output beam is presented to a beam **splitter** in order to produce two spatially modulated speckle light patterns therefrom. These two beams are then focused onto photorefractive means whereat a hologram is produced. This hologram operates to address decode the beam output of the optical fiber. Detector means now operates to detect the data by receiving the beam as it is diffracted by the hologram. Ring and star interconnect networks are described.

88/140 © EPODOC / EPO

- PN - [US6584252](#) B1 20030624
- PR - US20000737309 20001214
- AP - US20000737309 20001214
- DT - *, Rep
- CT - || STSE (B1)
[US4098287](#) A 00000000 [];
[US4647251](#) A 00000000 [];
[US5002438](#) A 00000000 [];
[US5029615](#) A 00000000 [];
[US5253956](#) A 00000000 [];
[US5647986](#) A 00000000 [];
[US5739420](#) A 00000000 [];
[US5861575](#) A 00000000 [];
[US5862561](#) A 00000000 [];
[US5996159](#) A 00000000 [];
[US6091872](#) A 00000000 [];
[US6167916](#) B1 00000000 [];
[US6198871](#) B1 00000000 [];
[US6215930](#) B1 00000000 [];
[US6301414](#) B1 00000000 [];
[US6463960](#) B1 00000000 [];
[DE19701787](#) A1 00000000 [];
[JPH0841977](#) A 00000000 [];
[JPH0961640](#) A 00000000 [];
[JP2000309976](#) A 00000000 []

CTNP - || STSE (B1)
 [] - US 2001/0010136A1 NakamuraAug. 2001.*
 [] - US 2002/0114595A1 PotashAug. 2002.

CCI - [G02B6/4463](#)

CI - G02B6/4463 (EP)

PA - CISCO TECH IND [US]

TI - Method and **system** for providing **fiber optic** cable to end users

AB - According to one embodiment of the invention, a method for providing **fiber optic** cable to an end user includes disposing the **fiber optic** cable having first and second ends within a sewer line coupled to a premises of the end user, and coupling the first end of the **fiber optic** cable to a network interface device inside the premises. The method may further include disposing an optical **splitter** within a main sewer line coupled to the sewer line and coupling the second end of the **fiber optic** cable to the optical **splitter**.

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PN - [US6363200](#) B1 20020326

PR - US20000689989 20001013; US19980122947 19980727

AP - US20000689989 20001013

DT - **

CCI - [G02B6/4452](#)

CCA - [G02B6/4457](#)

CI - G02B6/4452 (EP)

CA - G02B6/4457 (EP)

PA - ADC TELECOMMUNICATIONS INC [US]

TI - Outside plant fiber distribution apparatus and method

AB - An outside plant fiber distribution apparatus includes a frame member and a plurality of **fiber optic** modules mounted to the frame member. The frame member includes upper and lower module mounting brackets. Each module includes a front and two mounting flanges, each mountable to one of the upper and lower module mounting brackets. At least one of the modules is configured as a connection module including a plurality of connection locations disposed along the front of the module. A rear of the module includes a cable notch region for receipt of a cable. At least one of the modules defines a storage module including first and second spools. In an interconnect **system**, the storage module includes a cable clamp for holding a second cable, the cables are connected through the connection locations of the connection module. In a cross-connect **system**, two connection modules are provided, and patch cords are used to connect the fronts of the connection modules. The modules may also house splices, and/or optical couplers, such as **splitters** and wave division multiplexers.

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PN - [US4006487](#) A 19770201

PR - US19750618019
19750930; US19740524036 19741115

AP - US19750618019 19750930

DT - *; Rep

CT - || STSE (A)
[DE1913711](#) A1 00000000 [];
[US2691918](#) A 00000000 [];
[US2739228](#) A 00000000 [];
[US3315680](#) A 00000000 [];
[US3790249](#) A 00000000 [];
[US3833282](#) A 00000000 [];
[US3889279](#) A 00000000 []

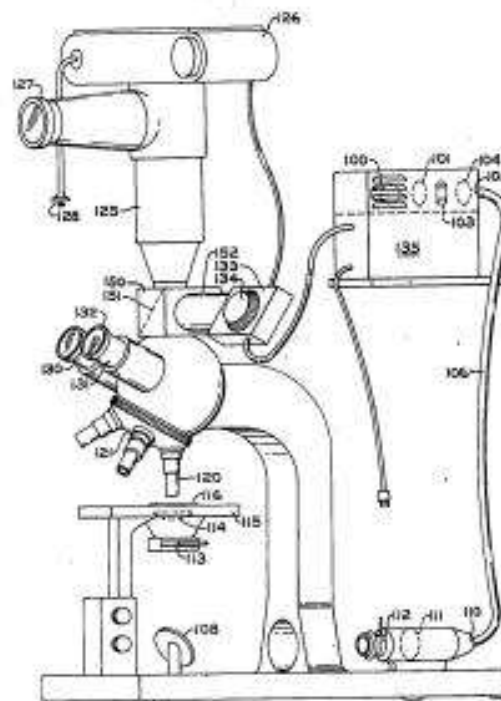
CCI - [G02B21/088](#) ; [G03B17/48](#)

CI - G02B21/088 (EP)
G03B17/48 (EP)

PA - ALLEN RAYMOND P

TI - Photomicrographic illuminator

AB - An illumination **system** for photomicrography includes direction of the light for illumination of the object through a **fiber optic**, the exit end of which replaces the usual illuminating lamp at the entrance pupil of a conventional illumination **system**. The light of an incandescent lamp directed through the **fiber optic** is used for selecting the view and focusing the camera. Light from a high intensity electronic flash, coupled to the camera shutter, is directed through the **fiber optic**, in replacement of the incandescent lamp, for the photography. An integrating light meter supplied by a beam **splitter** in the microscope tube terminates the flash when a proper exposure is achieved.



91/140 © EPODOC / EPO

PN - [US5694408](#) A 19971202

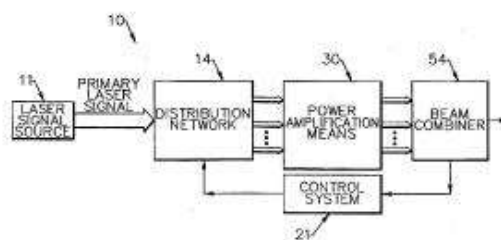
PR - US19950471870
19950607; US19960611474 19960305

AP - US19960611474 19960305

DT - **

CT - || STSE (A)
[US4933949](#) A 00000000 [];
[US5121400](#) A 00000000 [];
[US5355387](#) A 00000000 [];
[EP0571126](#) A2 00000000 []

CTNP - || STSE (A)
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[] - E. Desurvire, Analysis of Erbium Doped Fiber Amplifiers Pumped in the 4



15/2 4 13/2 Band, IEEE Photonics Technology Letters, vol. 1, No. 10, Oct. 1989pp. 293 296.

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[] - M. Karasek, Optimum design of Er³ doped fluoride fiber amplifiers pumped at 820 nm and 1480 nm, IEE Proc. Optoelectron , vol. 141, No. 3, Jun. 1994pp. 167 172.

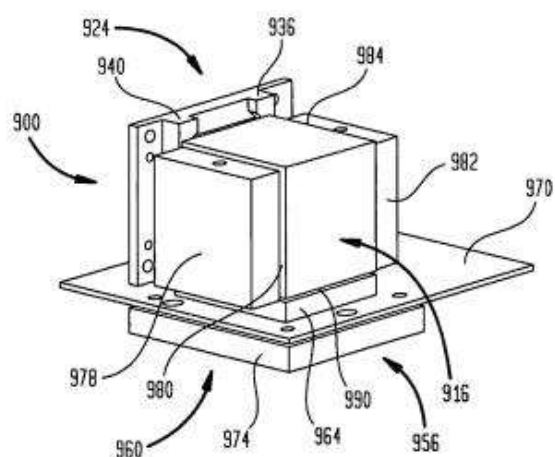
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- CCI - [H01S3/2383](#)
- CCA - [G02F2203/18](#) ; [H01S3/067](#) ; [H01S3/06754](#)
- CI - H01S3/2383 (EP)
- CA - G02F2203/18 (EP)
- H01S3/067 (EP)
- H01S3/06754 (EP)
- PA - MC DONNELL DOUGLAS CORP [US]
- TI - **Fiber optic** laser **system** and associated lasing method
- AB - The **fiber optic** laser **system** and associated lasing method amplifies and divides a primary laser signal into a plurality of secondary laser signals. The **fiber optic** laser **system** includes a distribution means, such as a distribution module, for dividing a primary laser signal, generated by a master oscillator into a number of secondary laser signals. The distribution module can include amplification means, such as an optical fiber amplifier, for amplifying the primary laser signal and a signal power **splitter** for dividing the amplified primary laser signal into a number of secondary laser signals. The secondary laser signals can

then be further amplified, such as by a power amplification module including another optical fiber amplifier. The secondary laser signals can be recombined to produce a laser output having a power level greater than the predetermined power level of the primary laser signal. During the process of combining the secondary laser signals, the secondary laser signals can be collimated and the relative phases of the secondary laser signals can be controllably modulated such that the resulting laser output has a predetermined phase profile and relatively high beam qualities.

92/140 © EPODOC / EPO

- PN - [US2006279821](#) A1 20061214
- PNFP - US7633662 B2 20091215
- PR - US20060440369
20060525; US20050684531P 20050526
- AP - US20060440369 20060525
- DT - *; Rep
- CT - || R141 (A1)
[US5710672](#) A 19980120 [] (ROBERTS DAVID ANTHONY [GB], et al);
[US2005013231](#) A1 20050120 [] (KAWANO KATSUNORI [JP], et al);
[US6992805](#) B2 20060131 [] (INGWALL RICHARD T [US], et al);
[US5719691](#) A 19980217 [] (CURTIS KEVIN [US], et al);
[US6344148](#) B1 20020205 [] (PARK SOO-JIN [KR], et al);
[US2003031112](#) A1 20030213 [] (HORIMAI HIDEYOSHI [JP]);
[US2004027625](#) A1 20040212 [] (TRENTLER TIMOTHY [US], et al);
[US2004027668](#) A1 20040212 [] (AYRES MARK R [US], et al);
[US2005041000](#) A1 20050224 [] (PLUT WILLIAM J [US]);
[US5499732](#) A 19960319 [] (NISHIMOTO HIROSHI [JP]);
[US5500910](#) A 19960319 [] (BOUDREAU ROBERT A [US], et al);
[US5886971](#) A 19990323 [] (FELDMAN MICHAEL R [US], et al);
[US6862121](#) B2 20050301 [] (PSALTIS DEMETRI [US], et al);
[US7027197](#) B2 20060411 [] (NEWSWANGER CRAIG [US], et al);
[US6389045](#) B1 20020514 [] (MANN KLAUS [DE], et al);
[US5123073](#) A 19920616 [] (PIMPINELLA RICHARD J [US]);



[US5912872](#) A 19990615 [] (FELDMAN
MICHAEL R [US], et al);
[US6081381](#) A 20000627 [] (SHALAPENOK
ANDREY [US], et al);
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- G11B7/128 (EP)
- G11B7/1384 (EP)
- G11B7/22 (EP)
CA - G11B7/0065 (EP)
PA - (A1 B2)
INPHASE TECH INC [US]
TI - (A1 B2)
Holographic drive head alignments
AB - (A1)
The present invention relates to
embodiments of: (1) a unitary
holographic drive head assembly

mounting structure; (2) an assembly comprising a unitary holographic drive head assembly mounting structure and a plurality of holographic drive head components and/or subassemblies; (3) a subassembly comprising a spatial light modulator, detector array, and a beam **splitter**; (4) a device comprising a spatial light modulator and a physical aperture positioned over or an imaged aperture projected onto the photoactive area of the spatial light modulator; (5) a **system** for optically aligning or pointing a laser in a holographic drive head assembly; (6) a light source subassembly comprising a laser, a fiber coupling lens; and an optical fiber having a fiber connector ready output end; and (7) a light source subsystem comprising a laser source, beam conditioning optics, fiber coupling optics for receiving the conditioned light beam, and a **fiber optic** connector for receiving the conditioned light beam from the fiber coupling optics.

- (B2)

Structures, subassemblies, devices, systems, and subsystems selected from:

(1) a unitary holographic drive head assembly mounting structure; (2) an assembly including a unitary holographic drive head assembly mounting structure and a plurality of holographic drive head components and/or subassemblies; (3) a subassembly including a spatial light modulator, detector array, and a beam **splitter**; (4) a device including a spatial light modulator and a physical aperture positioned over or an imaged aperture projected onto the photoactive area of the spatial light modulator; (5) a **system** for optically aligning or pointing a laser in a holographic drive head assembly; (6) a light source subassembly including a laser, a fiber coupling lens; and an optical fiber having a fiber connector ready output end; and (7) a light source subsystem including a laser source, beam conditioning optics, fiber coupling optics for receiving the conditioned light beam, and a **fiber optic** connector for receiving the conditioned light beam from the fiber coupling optics.

PN - [US2006279820](#) A1 20061214

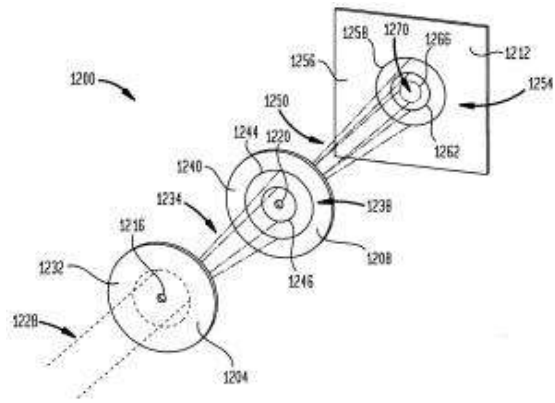
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AP - US20060440368 20060525

DT - *, Rep

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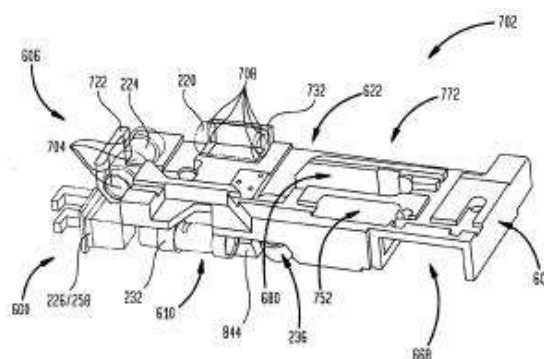
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- G11B7/22 (EP) |
| CA | - G11B7/0065 (EP) |
| PA | - (A1 B2)
INPHASE TECH INC [US] |
| TI | - (A1 B2)
Replacement and alignment of laser |
| AB | - (A1 B2)
The present invention relates to |

embodiments of: (1) a unitary holographic drive head assembly mounting structure; (2) an assembly comprising a unitary holographic drive head assembly mounting structure and a plurality of holographic drive head components and/or subassemblies; (3) a subassembly comprising a spatial light modulator, detector array, and a beam **splitter**; (4) a device comprising a spatial light modulator and a physical aperture positioned over or an imaged aperture projected onto the photoactive area of the spatial light modulator; (5) a **system** for optically aligning or pointing a laser in a holographic drive head assembly; (6) a light source subassembly comprising a laser, a fiber coupling lens; and an optical fiber having a fiber connector ready output end; and (7) a light source subsystem comprising a laser source, beam conditioning optics, fiber coupling optics for receiving the conditioned light beam, and a **fiber optic** connector for receiving the conditioned light beam from the fiber coupling optics.

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] (MORIYAMA KATSUYA [JP], et al)

- CCI - [G02B7/003](#) ; [G02B7/021](#) ; [G11B7/1384](#) ;
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- CCA - [G11B7/0065](#)
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CA - G11B7/0065 (EP)

PA - (A1)
INPHASE TECH INC [US]
- (B2)
RILEY BRIAN S [US]; WADE JAMES J [US];
WEGNER AARON [US]; INPHASE TECH INC
[US]

TI - (A1 B2)
Holographic drive head and component
alignment

AB - (A1 B2)
The present invention relates to
embodiments of: (1) a unitary
holographic drive head assembly
mounting structure; (2) an assembly
comprising a unitary holographic drive
head assembly mounting structure and a
plurality of holographic drive head
components and/or subassemblies; (3) a
subassembly comprising a spatial light
modulator, detector array, and a
beam **splitter**; (4) a device comprising a
spatial light modulator and a physical
aperture positioned over or an imaged
aperture projected onto the photoactive
area of the spatial light modulator; (5)
a **system** for optically aligning or
pointing a laser in a holographic drive
head assembly; (6) a light source
subassembly comprising a laser, a fiber
coupling lens; and an optical fiber
having a fiber connector ready output
end; and (7) a light source subsystem
comprising a laser source, beam
conditioning optics, fiber coupling
optics for receiving the conditioned light
beam, and a **fiber optic** connector for
receiving the conditioned light beam
from the fiber coupling optics.

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PN - [US2004052444](#) A1 20040318

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AP - US20030422146 20030424

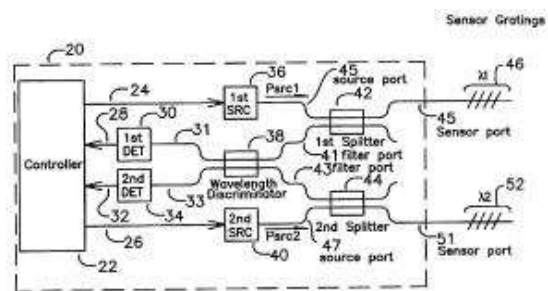
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[G01D5/35354](#) ; [G01L1/246](#)

CCA - [G02B6/022](#) ; [G02B6/2932](#) ;
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	- G01L1/246 (EP)
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	- G02B6/2932 (EP)
	- G02B6/29395 (EP)
	- G02B6/29398 (EP)
PA	- (B2)
	IFOS INC [US]
TI	- (A1)
	MULTIPLEXABLE FIBER-OPTIC STRAIN SENSOR SYSTEM WITH TEMPERATURE COMPENSATION CAPABILITY
	- (B2)
	Multiplexable fiber-optic strain sensor system with temperature compensation capability
AB	- (A1 B2)
	A fiber optic sensor comprises two independent fibers having Bragg gratings which are coupled to commutating broadband optical sources through splitters and wavelength discriminators. The ratio of detected optical energy in each of two detectors examining the wave intensity returned to a wavelength discriminator coupled with the characteristic of the wavelength discriminator determines the wavelength returned by the grating. In another embodiment, tunable filters are utilized to detect minimum returned wave energy to extract a sensor wavelength Reference to the original grating wavelength indicates the application of either temperature or strain to the grating. In another embodiment, a plurality of Bragg grating sensor elements is coupled to sources and controllers wherein a dimensional change in a fiber having a Bragg grating is detected using a measurement system comprising broad- band sources, optical power splitters , a high-sensitivity wavelength discriminator, optical detectors, and a controller.

PN - [US2004028311](#) A1 20040212

PNFP - US6895132 B2 20050517

PR - US20030422145
20030424; US19990286092 19990402

AP - US20030422145 20030424

DT - **

CT - || R141 (A1)
[US4367040](#) A 00000000 [];
[US4996419](#) A 00000000 [];
[US5394488](#) A 00000000 [];
[US5399854](#) A 00000000 [];
[US5613913](#) A 00000000 [];
[US6204920](#) B1 00000000 [];
[US5513913](#) A 00000000 [];
[US4761073](#) A 00000000 [];
[US4950083](#) A 00000000 [];
[US4950883](#) A 00000000 []

- || STSE (B2)
[US6275629](#) B1 00000000 [];
[US6335524](#) B1 00000000 []

CCI - [G01B11/16](#) ; [G01D5/35316](#) ;
[G01D5/35354](#) ; [G01D5/35387](#) ;
[G01L1/246](#)

CCA - [G02B6/02057](#) ; [G02B6/022](#) ;
[G02B6/2932](#) ; [G02B6/29395](#) ;
[G02B6/29398](#)

CI - G01B11/16 (EP)
G01D5/35316 (EP)
G01D5/35354 (EP)
G01D5/35387 (EP)
G01L1/246 (EP)

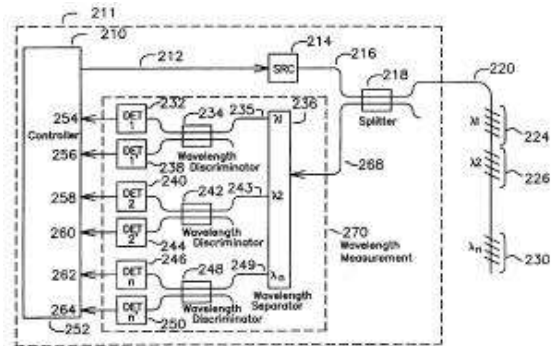
CA - G02B6/02057 (EP)
G02B6/022 (EP)
G02B6/2932 (EP)
G02B6/29395 (EP)
G02B6/29398 (EP)

PA - (B2)
IFOS INC [US]

TI - (A1)
MULTIPLEXABLE **FIBER-OPTIC** STRAIN
SENSOR **SYSTEM** WITH TEMPERATURE
COMPENSATION CAPABILITY

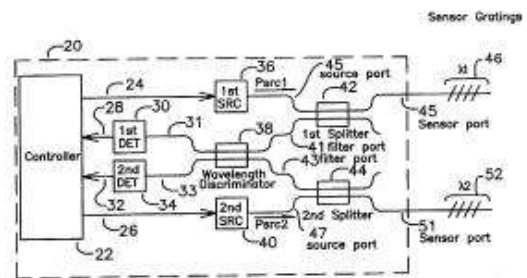
- (B2)
Multiplexable **fiber-optic** strain
sensor **system** with temperature
compensation capability

AB - (A1 B2)
A **fiber optic** sensor comprises two
independent fibers having Bragg gratings
which are coupled to commutating
broadband optical sources
through **splitters** and wavelength
discriminators. The ratio of detected
optical energy in each of two detectors
examining the wave intensity returned to



a wavelength discriminator coupled with the characteristic of the wavelength discriminator determines the wavelength returned by the grating. In another embodiment, tunable filters are utilized to detect minimum returned wave energy to extract a sensor wavelength Reference to the original grating wavelength indicates the application of either temperature or strain to the grating. In another embodiment, a plurality of Bragg grating sensor elements is coupled to sources and controllers wherein a dimensional change in a fiber having a Bragg grating is detected using a measurement **system** comprising broad-band sources, optical power **splitters**, a high-sensitivity wavelength discriminator, optical detectors, and a controller.

- 97/140** © EPODOC / EPO
- PN - [US2004028310](#) A1 20040212
- PNFP - US6788835 B2 20040907
- PR - US20030422093
20030424; US19990286092 19990402
- AP - US20030422093 20030424
- DT - **
- CT - || R141 (A1)
[US4367040](#) A 00000000 [];
[US4996419](#) A 00000000 [];
[US5399854](#) A 00000000 [];
[US5613913](#) A 00000000 [];
[US6204920](#) B1 00000000 [];
[US4761073](#) A 00000000 []
- || STSE (B2)
[US6275629](#) B1 00000000 [];
[US6335524](#) B1 00000000 []
- CCI - [G01B11/16](#) ; [G01D5/35316](#) ;
[G01D5/35354](#) ; [G01D5/35387](#) ;
[G01L1/246](#)
- CCA - [G02B6/02057](#) ; [G02B6/022](#) ;
[G02B6/2932](#) ; [G02B6/29395](#) ;
[G02B6/29398](#)
- CI - G01B11/16 (EP)
- G01D5/35316 (EP)
- G01D5/35354 (EP)
- G01D5/35387 (EP)
- G01L1/246 (EP)
- CA - G02B6/02057 (EP)
- G02B6/022 (EP)
- G02B6/2932 (EP)
- G02B6/29395 (EP)
- G02B6/29398 (EP)
- PA - (B2)



	IFOS INC [US]
TI	- (A1) MULTIPLEXABLE FIBER-OPTIC STRAIN SENSOR SYSTEM WITH TEMPERATURE COMPENSATION CAPABILITY - (B2) Multiplexable fiber-optic strain sensor system with temperature compensation capability
AB	- (A1 B2) A fiber optic sensor comprises two independent fibers having Bragg gratings which are coupled to commutating broadband optical sources through splitters and wavelength discriminators. The ratio of detected optical energy in each of two detectors examining the wave intensity returned to a wavelength discriminator coupled with the characteristic of the wavelength discriminator determines the wavelength returned by the grating. In another embodiment, tunable filters are utilized to detect minimum returned wave energy to extract a sensor wavelength Reference to the original grating wavelength indicates the application of either temperature or strain to the grating. In another embodiment, a plurality of Bragg grating sensor elements is coupled to sources and controllers wherein a dimensional change in a fiber having a Bragg grating is detected using a measurement system comprising broadband sources, optical power splitters, a high-sensitivity wavelength discriminator, optical detectors, and a controller.

98/140 © EPODOC / EPO

PN	- US6266458 B1 20010724	.
PR	- KR19980050333 19981124	
AP	- US19990416904 19991013	
DT	- *, Rep	
CT	- STSE (B1) US5062684 A 19911105 [] (CLAYTON JANE B [US], et al)	
CCI	- G02B6/2726 ; G02B6/2773 ; G02B6/29302 ; G02B6/29352 ; G02B6/29395	
CI	- G02B6/2726 (EP) - G02B6/2773 (EP) - G02B6/29302 (EP) - G02B6/29352 (EP) - G02B6/29395 (EP)	
PA	- KOREA ELECTRONICS TELECOMM [US]	
TI	- Tunable optical filtering system using fiber-optic polarimetric interferometer	
AB	- The present invention provides a tunable optical filtering system using fiber-optic polarimetric	

interferometer. The tunable optical filtering **system** using **fiber-optic** polarimetric interferometer in accordance with the present invention comprises a stabilization light source, a first polarization beam **splitter**, a first optical fiber node, a number of polarization maintaining optical fibers, a phase modulator, a stabilization electronics, a second optical fiber node, a second polarization beam **splitter**, and two wavelength division optical multiplexers. The stabilization light source supplies stabilization light. The first polarization beam **splitter** polarizes the stabilization light and the input light to be filtered and generates polarized light. The first optical fiber node connects the output of the first polarization beam **splitter** with polarization maintaining fibers with the angle of 45 degree between their birefringent axes and splits the polarized light. The number of polarization maintaining optical fibers carries the split light by the first optical fiber node. The phase modulator maintains phase difference between two birefringent axes of the polarization maintaining fibers. The stabilization electronics supply feedback signal to the phase modulator. The second optical fiber node connects the polarization maintaining fibers with the input of second polarization beam **splitter** with the angle of 45 degree between their birefringent axes, receives split light by said first optical fiber node, and generates interference signals. The second polarization beam **splitter** divides the interference signals into output signals by polarization axes. The wavelength division optical multiplexers divide the output signals into signals for the stabilization electronics and filtered signals by wavelengths.

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PN - [US2004202407](#) A1 20041014

PNFP - US6934438 B2 20050823

PR - US20030409271 20030407

AP - US20030409271 20030407

DT - **

CT - || R141 (A1)

[US2004057658](#) A1 20040325 [] (CHU CHARLES [US], et al);

[US6567574](#) B1 20030520 [] (MA JIAN [US], et al);

[US2002076136](#) A1 20020620 [] (DUCELLIER THOMAS [CA], et al);

[US6591029](#) B1 20030708 [] (LIN LIH Y [US], et al);

[US6760505](#) B1 20040706 [] (STREET ROBERT A [US], et al);

[US6300665](#) B1 20011009 [] (PEETERS ERIC [US], et al);

[US6483962](#) B1 20021119 [] (NOVOTNY VLAD J [US]);

[US2002181848](#) A1 20021205 [] (LEMOFF BRIAN E [US], et al)

- || STSE (B2)

[US6567574](#) B1 20030520 [] (MA JIAN [US], et al);

[US6591029](#) B1 20030708 [] (LIN LIH Y [US], et al);

[US6760505](#) B1 20040706 [] (STREET ROBERT A [US], et al);

[US2004057658](#) A1 20040325 [] (CHU CHARLES [US], et al)

CCI - [G02B6/359](#)

CCA - [G02B6/3512](#) ; [G02B6/3556](#)

CI - G02B6/359 (EP)

CA - G02B6/3512 (EP)

- G02B6/3556 (EP)

PA - (B2)

AGILENT TECHNOLOGIES INC [US]

TI - (A1 B2)

Closed loop alignment **system** for **fiber optic** cross-connect switches

AB - (A1)

A closed loop alignment **system** for cross-connect switches in optical telecommunications systems. Arrays of small tiltable mirrors within the switch direct the signal beams between optical fiber arrays connected to the switch. An external alignment **system** is incorporated into the cross-connect switch and is employed to provide an alignment beam of a wavelength different from the signal beams. Beam **splitters** such as dichroic mirrors, which pass the signal

beams but pass only a portion of the alignment beams, are placed in the beam paths to image the ends of the optical fibers of the arrays. A combined image of the ends of the optical fibers from each array is reflected onto a photodetector array, output signals of which are sent to a feedback control **system** which compares the position, size, and shape of the combined image to a stored tolerance range of acceptable positions, sizes, and shapes, and consequently moves the tiltable mirrors so that the signal beams correctly enter the ends of the optical fibers in the opposite optical fiber array.

- (B2)

A closed loop alignment **system** for cross-connect switches in optical telecommunications systems. Arrays of small tiltable mirrors within the switch direct the signal beams between optical fiber arrays connected to the switch. An external alignment **system** is incorporated into the cross-connect switch and is employed to provide an alignment beam of a wavelength different from the signal beams. Beam **splitters** such as dichroic mirrors, which pass the signal beams but pass only a portion of the alignment beams, are placed in the beam paths to image the ends of the optical fibers of the arrays. A combined image of the ends of the optical fibers from each array is reflected onto a photodetector array, output signals of which are sent to a feedback control **system** for comparison of the combined image to a stored tolerance range and consequently moves the tiltable mirrors as necessary for proper alignment.

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PN

- [US2003185562](#) A1 20031002

PNFP

- US6934469 B2 20050823

PR

- US20030397185
20030327; US20010850141 20010508

AP

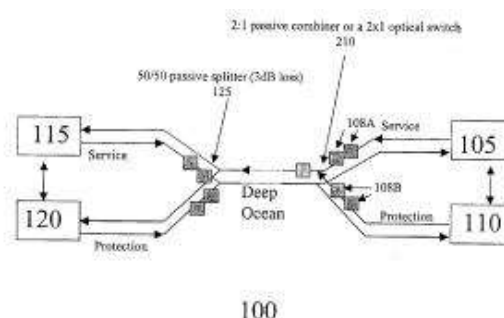
- US20030397185 20030327

DT

- **

CT

- || R141 (A1)
[US6016219](#) A 20000118 [] (FATEHI MOHAMMAD T [US], et al);
[US6025949](#) A 20000215 [] (ANDERSON CLEO DALE [US]);
[US6028684](#) A 20000222 [] (KIDORF HOWARD D [US]);
[US6185022](#) B1 20010206 [] (HARASAWA SHIN-ICHIROU [JP]);
[US6204945](#) B1 20010320 [] (IWATA HIROYUKI [JP], et al);
[US6211985](#) B1 20010403 [] (ANDERSON CLEO D [US]);
[US6057948](#) A 20000502 [] (MIZRAHI VICTOR [US]);
[US5764405](#) A 19980609 [] (ALPHONSUS JUSTIN E [US]);
[US5912761](#) A 19990615 [] (JANDER RALPH BRIAN [US], et al);
[US5926263](#) A 19990720 [] (LYNCH ROBERT L [US], et al);
[US5959767](#) A 19990928 [] (FATEHI MOHAMMAD T [US], et al);
[US6115154](#) A 20000905 [] (ANTONIADES NEOPHYTOS [US], et al);
[US5675432](#) A 19971007 [] (KOSAKA JUNYA [JP]);
[US5966206](#) A 19991012 [] (JANDER RALPH BRIAN [US]);
[US5969833](#) A 19991019 [] (JENSEN RICHARD A [US]);



	US6134032 A 20001017 [] (KRAM RICHARD [US], et al); US6134033 A 20001017 [] (BERGANO NEAL S [US], et al); US6137604 A 20001024 [] (BERGANO NEALS [US]); US6304351 B1 20011016 [] (PEDERSEN BO [US]); US6323981 B1 20011127 [] (JENSEN RICHARD ANDREW [US]); US6005694 A 19991221 [] (LIU SHOA-KAI [US]); US6327250 B1 20011204 [] (CHEN CHIEN-JEN [US], et al)
	- STSE (B2) US5956165 A 19990921 [] (FEE JOHN A [US], et al); US6137603 A 20001024 [] (HENMI NAOYA [JP]); US2002071148 A1 20020613 [] (PURSE CHRISTOPHER M [GB], et al)
CCI	- H04B10/032 ; H04J14/029 ; H04Q11/0062
CCA	- H04J14/0279 ; H04J14/0283 ; H04Q2011/0081
CI	- H04B10/032 (EP) - H04J14/029 (EP) - H04Q11/0062 (EP)
CA	- H04J14/0279 (EP) - H04J14/0283 (EP) - H04Q2011/0081 (EP)
PA	- (A1 B2) DORSAL NETWORKS INC [US]
TI	- (A1 B2) Split redundant trunk architecture using passive splitters and path switching
AB	- (A1 B2) A collapsed ring fiber optic system includes a service path and a protection path provides at a shallow water portion of the fiber optic system, to deal with any fiber cuts that may occur at the shallow water portion without loss of main trunk bandwidth. The service and protection paths meet at a branch point, which is preferably located at a deep water portion of the fiber optic system. A passive combiner or a 1x2 switch is provided at the branch unit, along with a detector and a processor, to determine whether any signals are being received from the service path, and if not, to reconfigure the system to accept signals from the protection path. At another shallow water portion of the fiber optic system, nearby where a destination is located, the signal provided on the

optical path over the deep water portion is split into a service path and a protection path, to provide redundancy to deal with any fiber cuts that may occur. The **fiber optic system** may also be utilized for a land-based **system**, having high probability of fiber cut regions and low probability of fiber cut regions.

[SS 10]