Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 25 March 2025

Case Number: T 1927/23 - 3.4.02

Application Number: 15184772.0

Publication Number: 2995981

IPC: G02B6/44

Language of the proceedings: EN

Title of invention:
INDEPENDENTLY TRANSLATABLE MODULES AND FIBER OPTIC EQUIPMENT TRAYS IN FIBER OPTIC EQUIPMENT

Patent Proprietor:
Corning Optical Communications LLC

Opponent:
GRUND IPG Patentanwälte und Solicitor PartG mbB

Headword:

Relevant legal provisions:
EPC Art. 76(1), 123(2), 84, 54, 56
RPBA 2020 Art. 12(6)

Keyword:

Amendments - added subject-matter (no)
Claims - clarity (yes)
Novelty - (yes)
Inventive step - (yes)
Late-filed objection - should have been submitted in first-instance proceedings (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0

Case Number: T 1927/23 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 25 March 2025

Appellant: (Patent Proprietor)	Corning Optical Communications LLC 4200 Corning Place Charlotte, NC 28216 (US)
Representative:	Reddie & Grose LLP The White Chapel Building 10 Whitechapel High Street London E1 8QS (GB)
Appellant: (Opponent)	GRUND IPG Patentanwälte und Solicitor PartG mbB Steinsdorfstrasse 2 80538 München (DE)
Representative:	Grund, Martin Grund Intellectual Property Group Patentanwälte und Solicitor PartG mbB Steinsdorfstraße 2 80538 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 18 September 2023 concerning maintenance of the European Patent No. 2995981 in amended form.**

Composition of the Board:

Chairman	R. Bekkering
Members:	C. Kallinger
	P. Guntz

Summary of Facts and Submissions

I. The opposition division decided that, taking into consideration the amendments according to auxiliary request 2 made by the patent proprietor during the opposition proceedings, the patent and the invention to which it related met the requirements of the EPC.

II. The patent proprietor lodged an appeal against the opposition division's decision and initially requested that the decision under appeal be set aside and that the patent be maintained as amended on the basis of the claims of auxiliary request 1 or, as an auxiliary measure, that the patent be maintained on the basis of the claims of auxiliary request 2, both requests filed on 20 July 2023 during the oral proceedings before the opposition division.

III. The opponent lodged an appeal against the opposition division's decision and requested that the decision be set aside and the patent be revoked in its entirety.

IV. In its reply to the opponent's appeal (below referred to as "reply"), the proprietor filed further arguments and amended claims forming the basis of further auxiliary requests.

V. Oral proceedings were appointed as requested. In a communication pursuant to Article 15(1) RPBA the board informed the parties of its preliminary opinion on certain aspects of the case.

VI. In response to the board's communication the opponent withdrew its request for oral proceedings, announced

that they would not take part in the oral proceedings, and that they maintained the case as set out in writing.

VII. In response to the board's communication the proprietor filed further arguments and amended claims forming the basis of further auxiliary requests.

VIII. Oral proceedings took place on 25 March 2025. As announced, no one was present on behalf of the opponent. During the oral proceedings, the patent proprietor withdrew its appeal.

IX. The parties' final requests are as follows.

The opponent requests that the decision under appeal be set aside and that the patent be revoked.

The proprietor requests that the opponent's appeal be dismissed, i.e. that the patent be maintained in amended form on the basis of the claims of auxiliary request 2 as filed on 20 July 2023 during the oral proceedings before the opposition division.

X. This decision refers to the following documents:

Application documents of the opposed patent

A1 WO 2010/024846 A2, parent application

A2 EP 2 995 981 A2, A2 publication

Prior art documents

D1 JP 2002-022974

D1a Machine translation of the description and the claims of D1

D2 US 2008/0043451 A1

D3 US 5,167,001

D4 US 5,595,501

D5 DE 10 2007 024 896 B3

D6 US 6,102,499

D7 US 6,456,501 B1

D8 US 5,262,923

D9 US 2006/0029353 A1

D10 US 2007/0189692 A1

Documenting common general knowledge

D11 M. H. Weik: "Fiber optics standard dictionary", Chapman&Hall, 1997, entry for "rack"

XI. Claim 1 of the patent as maintained in amended form according to auxiliary request 2 reads as follows (feature numbering added by the board):

1.1 *A fiber optic apparatus, comprising:*

1.1 *a chassis (12), wherein the chassis (12) has opposite front and rear ends (24, 26) that are spaced apart from one another in a longitudinal direction, the chassis (12) configured to be disposed in an equipment rack (14);*

1.2 *a guide system (32) disposed within the chassis (12) and receiving a plurality of fiber optic equipment trays (20) arranged in a column format, the guide system (32) comprising tray rail guides (32A, 32B) attached to the chassis (12) and configured to support the plurality of*

fiber optic equipment trays (20) such that the plurality of fiber optic equipment trays (20) installed therein can each be independently translated in the longitudinal direction about the chassis (12) via the tray rail guides (32A, 32B);

1.3 *a plurality of optical fiber equipment trays (20), each of the plurality of fiber optic equipment trays (20) including a plurality of module rail guides (50) disposed in the fiber optic equipment tray (20), for receiving in the fiber optic equipment tray (20) a plurality of fiber optic modules (22) arranged as a single row of fiber optic modules (22);*

1.3a *wherein, for each fiber optic equipment tray (20), the plurality of fiber optic modules (22) are installed between adjacent ones of the plurality of module rail guides (50) and are oriented in the same plane as the major plane of the fiber optic equipment tray (20);*

1.4 *wherein each of the plurality of the module rail guides (50) has a tray channel (54) configured to receive a module rail (52A, 52B) disposed on a fiber optic module (22), wherein the tray channels (54) are open at a rear end (56) of the module rail guides (50) such that the fiber optic modules (22) are rear-installable into the fiber optic trays (20) from the rear end (26) of the chassis (12) until they reach a forward stop or locking feature; and*

1.5 *wherein each of the plurality of fiber optic modules (22) is independently translatable within a fiber optic equipment tray (20) among the plurality of fiber optic equipment trays (20);*

1.6 *wherein the plurality of module rail guides (50) comprises:*

1.6.1 *a first module rail guide (50) disposed on a first end (48A) of a fiber optic equipment tray (20) among the plurality of fiber optic equipment trays (20);*

1.6.2 *a second module rail guide (50) disposed on a second end (48B) of the fiber optic equipment tray (20) opposite the first end (48A); and*

1.6.3 *at least one intermediate module rail guide (50) disposed in the fiber optic equipment tray (20) between the first module rail guide (50) and the second module rail guide (50);*

1.7 *the fiber optic apparatus further comprising a plurality of fiber optic modules, wherein each of the plurality of fiber optic modules (22) comprises a locking feature in the form of a locking latch (78) and a protrusion (80) for engaging a complementary protrusion disposed in the tray channel (54) of the module rail guides (50);*

1.7.1 *a locking feature in the form of a locking latch (78) and*

1.7.2 *a protrusion (80) for engaging a complementary protrusion disposed in the tray channel (54) of the module rail guides (50); and wherein*

1.8 *the locking latch (78) is inwardly biased such that the fiber optic module (22) can be installed in the module rail guides (50), but cannot be pulled back towards a rear section (26) of the chassis (12) until the locking latch (78) is disengaged to prevent the protrusion 80 from engaging with the module rail guides (50).*

Reasons for the Decision

1. The opponent's appeal concerns the claims filed as auxiliary request 2 on 20 July 2023 during the oral proceedings. They formed the basis for the opposition division's decision to maintain the patent in amended form.

2. Amendments - Articles 76 and 123(2) EPC

2.1 The opposed patent is based on a European divisional application. In the following discussion of Articles 76 and 123(2) EPC, document A1 refers to the earlier application as originally filed (parent application) and document A2 to the application as originally filed (divisional application).

2.2 The opposition division held in the decision under appeal (see section 15.4) that the amended set of claims of auxiliary request 2 had a basis in the parent and in the divisional application (documents A1 and A2).

2.3 With respect to the opponent's objections based on Articles 76 and 123(2) EPC, the board agrees with the opposition division and the patent proprietor for the following reasons.

2.3.1 Feature 1 - module vs. apparatus

The opponent argued that claim 1 of the opposed patent as maintained was directed to a fiber optic apparatus (feature 1) comprising one or more fiber optic modules (feature 1.7). However, in the divisional application (see document A2, paragraph [0018]), the skilled person

would find a clear teaching that a fiber optic module can be a fiber optic apparatus. Any finding that a fiber optic apparatus could comprise trays and modules as claimed could only be derived with the benefit of knowledge of claim 1 as maintained and was therefore based on a hindsight analysis.

The board is not convinced by the opponent's argument and agrees with the opposition division (see decision, 13.10) that despite the inconsistent use of the terms "module" and "apparatus" in the patent, the generally accepted meaning of the term "module" is usually an entity forming part of a larger entity, e.g. an apparatus. Thus, despite the inconsistency referred to by the opponent, the skilled person reading the description would understand that a fiber optic apparatus comprises one or more fiber optic modules.

In addition, the description of the divisional application shows that a plurality of fiber optic modules 22 are installed in an apparatus 10 which is referred to as "fiber optic equipment" (see document D2, Figures 2 and 5 and paragraphs [0021] and [0028]).

Finally, claim 1 as originally filed defines a fiber optic apparatus comprising inter alia at least one fiber optic module.

Therefore, a fiber optic apparatus comprising at least one fiber optic module has a basis in the divisional application.

2.3.2 Feature 1.1 - disposed vs. installed

The opponent argued that feature 1.1 extended beyond the content of the parent application, because the

feature that *"the chassis (12) configured to be disposed in an equipment rack (14)"* was not disclosed in document A1, which only disclosed (see paragraph [0057]) that the chassis was configured to be *"installed in a fiber optic equipment rack"*.

In the context of the equipment rack of the opposed patent, the term "*disposed*" was substantially different to "*installed*". Since "*disposed*" was not supported by the text of the divisional application, nor by the text of the parent application, claim 1 extended beyond the content of both.

The board is not convinced by the opponent's arguments and agrees with the proprietor for the following reasons.

The board agrees with the patent proprietor that the feature that *"the chassis (12) configured to be disposed in an equipment rack (14)"* is disclosed in claim 7 of the divisional application.

However, the feature has no literal basis in the parent application, which discloses (see document A1, paragraph [0057]) that the chassis is configured to be *"installed in a fiber optic equipment rack"*.

Irrespective of the question, whether the terms *"disposed in"* and *"installed in"* are synonyms, the board agrees with the patent proprietor's argument (see letter dated 25 February 2025, section 2.1.1.3) that the parent application discloses (see document A1, paragraph [0015]) *"an exemplary fiber optic equipment rack with exemplary fiber optic equipment supporting rear-installable fiber optic modules according to one embodiment"*, where the fiber optic equipment is

referencing the chassis, and the term used to denote its positioning within the equipment rack is *"with"*.

The board agrees that this portion of the description only requires that the fiber optic equipment rack is *"with"* the fiber optic equipment supporting the modules, i.e. *"with"* the chassis. Therefore, the parent application does not limit the fiber optic equipment to being installed within the equipment rack but discloses also that the chassis is configured to be disposed in an equipment rack, i.e. without fixation.

Therefore, the board comes to the conclusion that the use of the expression *"to be disposed"* in feature 1.1 of claim 1 is directly and unambiguously derivable from the parent application.

2.3.3 Feature 1.2 - rail guides

The opponent argued that feature 1.2 did not have a basis in the divisional and the parent application.

They argued that the only explicit disclosure in document A2 stating that the guide system (32) comprised tray rail guides (32A, 32B) appeared to be in paragraph [0021] and only in connection with the statement that the guide system is a rail guide system 32 and that the rail guide system 32 comprises two tray rail guides 32A, 32B attached to the chassis 12 on the first end 28 and the second end 30, respectively.

Similar considerations applied with regard to the disclosure of this feature in document A1, which also described (see paragraph [0058]) the feature of rail guides only in connection with their arrangement on opposite ends of the chassis.

The omission of position of the attachment of the tray rail guides (on the first and second ends of the chassis) in feature 1.2 constituted an unallowable intermediate generalization, contravening Articles 123(2) and 76(1) EPC.

The board is not convinced by the opponent's line of argument and agrees with the opposition division's reasoning (see decision, 13.13) that the position of the attachment of the tray rail guides is not inextricably linked to the provision of tray rail guides in general or the solution provided by the patent in this respect. Rail guides attached further inward than the first and second ends and having additional space extending between the tray rail guides and the first and second ends would also solve the problem of easy and safe installation of modules.

Therefore, the parent and the divisional application clearly and unambiguously disclose feature 1.2.

2.3.4 Feature 1.3 - arrangement in single row

The opponent argued (see grounds of appeal, 6.17 to 6.20) that the portion of feature 1.3 specifying that fiber optic modules are arranged as a single row extended beyond the content of the divisional and the parent application, since document A2 (see paragraph [0023]) and document A1 (see paragraph [0060]) only described that modules could be arranged in a row arrangement rather than in a single row as it was currently specified in feature 1.3. In addition, Figures 3 and 6 of documents A1 and A2 encompassed further important features that were not included, for

example that the modules span the entire length of the tray.

The board agrees that documents A1 and A2 disclose the fiber optic modules being arranged in a row and that Figure 6 clearly shows an arrangement of the modules (22) in a single row.

The board is however not convinced, that feature 1.3 amounts to an unallowable intermediate generalization as the single row arrangement shown in Figure 6 is not linked to any other features shown therein.
In addition, the board agrees with the patent proprietor's argument (see letter dated 5 June 2024, page 19, Section (4)) that the allegedly missing feature of the modules spanning the entire length of the tray is captured in claim 1 (see feature 1.6) by defining that the first and second module rail guides are disposed at the first and second end of the trays respectively.

Therefore, the parent and the divisional application clearly and unambiguously disclose feature 1.3.

2.3.5 Feature 1.3a

The opponent argued (see statement of grounds of appeal, 6.21 to 6.27) that this amendment was not supported by the text of the divisional application, nor by the text of the parent application. The language used in feature 1.3a (in particular "adjacent", "major plane" and "orientated in the same plane") was not found in the text of the description and the Figures did not illustrate a "plane". Therefore, the wording used in the feature 1.3a constituted added subject matter.

For example, there was no reference to module rail guides being oriented in the "same plane" as the "major plane" of the fiber optic equipment tray. There was also no illustration of any plane in any of the figures, there was no discussion of any plane in connection with Figure 8 and the term "adjacent" could also not be found anywhere in the divisional application. Therefore, the wording used in feature 1.3a constituted added subject-matter.

The board is not convinced by this argument and agrees with the opposition division (see decision, 15.4) and the patent proprietor (see reply to appeal dated 5 June 2024, pages 10 and 11) that feature 1.3a has a basis in the divisional application: documents A1 and A2 (see Figures 3, 6 and 8) consistently shows that the trays and modules are generally planar, i.e. that they have width and depth dimensions that are significantly larger than their height. Therefore, a major plane for these objects is disclosed. In addition, the relative positioning of the modules and the module rail guides in the equipment tray is shown.

Therefore, the parent and divisional application clearly and unambiguously disclose the arrangement of these elements as defined in feature 1.3a.

2.3.6 Feature 1.4 - module rail guides open at rear end

The opponent argued that documents A1 and A2 disclosed tray channels which were open at a rear end of the module rail guides only for the specific configuration in which also the rear ends of the module rail guides were oriented towards the rear section of the chassis. However, this was not disclosed for the more general

configuration in which the rear ends of the module rail guides could be oriented in any direction with respect to the chassis as specified in feature 1.4.

Therefore, the portion of feature 1.4 specifying that the tray channels (54) are open at a rear end (56) of the module rail guides (50) extended beyond the content of the parent and divisional application.

In addition, the scope of claim 1 covered embodiments in which the rear ends of the module rail guides 50 were not oriented towards the rear section 26 of the chassis 12. Since such embodiments were not supported by the text of the divisional application, this feature was an extension of subject matter beyond that originally disclosed.

The board is not convinced by these arguments and agrees with the opposition division (see decision, 13.15) that the parent and divisional application consistently use the terms rear and front for all parts described therein. Thus, it is clear from the description (see paragraph [0024] of A2 and [0060] of A1 and Figures 2A and 3 of both documents) that the rear ends of the module rail guides are also oriented towards the rear end of the chassis if the modules are supposed to be rear-installable as disclosed in documents A1 and A2.

This is also defined in claim 1 by using the term "rear end" for the ends of the module rail guides which are oriented towards the rear of the chassis. It is not necessary to explicitly specify that these ends are oriented towards the rear of the chassis since this is already implicit in the consistent use of the term rear for both the module rail guides and the chassis.

Therefore, the board is of the opinion that feature 1.4 does not extend beyond the content of the parent or the divisional application.

2.3.7 Feature 1.7.2 - only protrusion engages complementary protrusion

The opponent argued that the parent and the divisional application (see document A1, paragraph [0065] and Figure 4 and document A2, paragraph [0028]) disclosed that both the locking latch and protrusion engaged a complementary protrusion in the tray channel. However, the language of claim 1 covered the scenario in which only the protrusion 80 engaged the complementary protrusion.

The board is not convinced by this argument and agrees with the proprietor that documents A1 and A2 disclose (see document A1, [0065] and A2 [0028]) that *"[a] locking feature in the form of a locking latch 78 and a protrusion 80 (FIG. 4) engage a complementary protrusion disposed in the tray channel 54"*.

Therefore, feature 1.7.2, i.e. *"a locking feature in the form of a locking latch (78) and a protrusion (80) for engaging a complementary protrusion disposed in the tray channel (54) of the module rail guides (50)"* is clearly and unambiguously disclosed in the parent and divisional application.

2.3.8 Feature 1.8 - installed in module rail guides

The opponent argued (see grounds of appeal, 6.36 to 6.39) that the divisional application (see document A2, paragraph [0028]) disclosed that the fiber optic module

(22) could be installed in the tray rail guides (32) whereas feature 1.8 defined module rail guides (50).

The board agrees with the opposition division (see decision, 13.16) that paragraph [0028] of document A2 is not consistent when referring to tray and module rail guides. This is, however, a matter of clarity.

Regarding the technical disclosure, paragraph [0028] of document A2 discloses that *"the locking latch 78 is disengaged to prevent the protrusion 80 from disengaging with the module rail guides 50". The same disclosure is found in paragraph [0065] of document A1.*

In addition, Figure 5 of documents A1 and A2 clearly discloses that the locking latch 78 is located in the module rail guides 50 and not in the tray rail guides and consequently that the locking mechanism must also be located therein.

Therefore, paragraph [0028] of A2 and paragraph [0065] of A1 as a whole together with Figure 5, clearly and unambiguously discloses that the locking latch 78 is located in the module rail guides 50 and not in the tray rail guides and consequently that the locking mechanism must also be located therein.

Therefore, feature 1.8 is clearly and unambiguously disclosed in the parent and divisional application.

2.3.9 Dependent claim 2 - equipment trays independently translatable

Dependent claim 2 reads:

2. The fiber optic apparatus of claim 1, wherein each of the plurality of fiber optic equipment trays (20) is independently translatable about the chassis (12) during operative access of the at least one fiber optic module (22).

The opponent argued (see grounds of appeal, 6.40 to 6.42) that document A1 failed to disclose that the trays were independently translatable during operative access.

The board is not convinced by the opponent's line of argument and agrees with the opposition division and the patent proprietor for the following reasons.
The amendment *"during operative access"* cannot be found verbatim in the parent application (document A1) but was added only in the divisional application (see document A2, claim 8). However, document A1 (see paragraph [0057], last sentence) mentions that each tray is independently translatable in the context of access of the modules. Therefore, the skilled person directly and unambiguously understands that the fiber optic equipment trays are independently translatable about the chassis during operative access of the fiber optic module as it is unrealistic that the independent translation suddenly fails to work during access of the modules, in particular as the modules are accessed by translating them out of the tray.

Therefore, claim 2 is clearly and unambiguously disclosed in the parent and the divisional application.

2.3.10 Dependent claim 4 - fiber routing trays

Dependent claim 4 reads:

4. The fiber optic apparatus of any one of claims 1 to 3, comprising

a plurality of fiber routing trays (36) each disposed in a front end of a fiber optic equipment tray (20) among the plurality of fiber optic equipment trays (20); and

each of the at least one fiber optic module (22) having a front end (66), a rear end (72), and an inside, at least one first fiber optic adapter (64) disposed through the front end (66), at least one second fiber optic adapter (70) disposed through the rear end (72), and at least one optical fiber provided within the inside of the at least one fiber optic module (22) connected to the at least one first fiber optic adapter (64) and the at least one second fiber optic adapter (70).

The opponent argued (see grounds of appeal, 6.43 to 6.46) that the parent application (see document A1, paragraph [0060]) disclosed in addition that the routing tray was formed from sheet material, bent into a U-shape, and that it comprised a hinge mechanism. Furthermore, document A1 failed to disclose a second fiber optic adapter (70) and a single optical fiber provided within the module. Therefore, document A1 did not provide a basis for the generalized feature of claim 4 which constituted an unallowable intermediate generalization contravening Article 76 (1) EPC.

The board is not convinced by these arguments and agrees with the opposition division and the patent proprietor.

Document A1 (see claim 5 and Figure 3) discloses *"a plurality of fiber routing trays each disposed in a fiber optic equipment tray among the plurality of fiber optic equipment trays"*. Therefore, document A1 provides a general basis for routing trays without a hinge mechanism and without further details concerning its composition (e.g. sheet material bent into a U-shape).

Furthermore, document A1 (see paragraph [0063] and Figure 4) also provides a basis for the claimed fiber optic adapters disposed on the front and rear ends of the fiber optic modules and discloses (see paragraph [0092]) that modifications of this embodiment include *"the number of fiber optic adapters"*.

Therefore, the parent application provides a basis for claim 4.

2.3.11 Dependent claim 5 - hinge mechanism

Dependent claim 5 reads:

5. The fiber optic apparatus of claim 4, wherein each of the plurality of fiber routing trays (36) are hingedly attached via a hinge mechanism (46A, 46B) to a front end of a fiber optic equipment tray (20) among the plurality of fiber optic equipment trays (20).

The opponent argued (see grounds of appeal, 6.47 to 6.50) that document A1 did not provide a basis for the idea that each of the plurality of fiber routing trays are hingedly attached via a hinge mechanism to a front

end of a fiber optic equipment tray. Particularly, paragraph [0067] and claim 5 of document A1 did not disclose that the fiber routing trays were attached to a front end of a fiber optic equipment tray.

The board is not convinced by these arguments and agrees with the opposition division (see decision, section 13.19) that this feature is clearly and unambiguously derivable from document A1 (see paragraphs [0058] and [0067], Figures 2A and 6 and claim 6).

2.3.12 Dependent claim 6 - hinge mechanism fiber routing tray to tilt when released.

Dependent claim 6 reads:

6. The fiber optic apparatus of claim 5, wherein the hinge mechanism (46A, 46B) allows a fiber routing tray (36) of the plurality of fiber routing trays (36) to tilt about a front end of a fiber optic equipment tray (20) among the plurality of fiber optic equipment trays (20) when released.

The opponent argued in its statement of ground of appeal (see sections 6.51 to 6.54) that document A1 did not disclose that the fiber routing trays could be tilted when the equipment trays were released.

The board is not convinced by the opponent's argument and agrees with the opposition division and the patent proprietor that claim 6 has a basis in document A1 which discloses (see claim 7) that "*the hinge mechanism releasably tilts the plurality of fiber routing trays to tilt about a fiber optic equipment tray among the plurality of fiber optic equipment trays when*

released". In addition, paragraph [0068] and Figure 9 clearly show that the routing trays 36 can be tilted about a front end of the equipment tray independently.

Therefore, the parent application provides a basis for claim 6.

2.3.13 Dependent claim 7

Dependent claim 7 reads:

7. The fiber optic apparatus of any of claims 1 to 6, wherein each of the plurality of fiber optic modules (22) comprises fiber optic adapters (64) disposed on a front end (66) of the fiber optic module (22) and a fiber optic adapter (70) disposed on a rear end (73) of the fiber optic module (22), and two sides (74A, 74b) on which the module rails (52A, 52B) are disposed.

The opponent argued (see grounds of appeal, 6.55 to 6.58) that document A1 (see [0063]) and document A2 (see [0026]) disclosed that, in addition, the polarity was managed between the fiber optic connectors 68 and the fiber optic adapters 64. Therefore, neither document A1 nor document A2 provided a basis for the generalized feature of claim 7 omitting this aspect.

The board is not convinced by these arguments and agrees with the opposition division that documents A1 and A2 (see paragraphs [0063] and [0026] respectively) disclose that fiber optic modules *"may also manage polarity"*. This feature is therefore optional and not inextricably linked to the other features of claim 7 which are disclosed in the cited passages.

Therefore, claim 7 is clearly and unambiguously disclosed in the parent and divisional application.

2.3.14 Dependent claim 9 - fiber optic adapters

Dependent claim 9 reads:

9. The fiber optic apparatus of any preceding claim, wherein the chassis (12) is a shelf for a fiber optic equipment rack, the shelf being 4.45cm in height, and wherein the chassis (12) supports three fiber optic equipment trays (20) with each tray stacked on top of each other.

The opponent argued (see grounds of appeal, 6.59 to 6.62) that neither document A1 nor document A2 disclosed the term "shelf" in connection with the chassis 12.

The board is not convinced by this argument and agrees with the opposition division that this feature has a basis in document A1 (see [0057]) and document A2 (see [0020]) in combination with Figures 1 and 2A showing a shelve-like structure of the chassis (12) and that the chassis supports three fiber optic equipment trays (20) stacked on top of each other. The 4.45 cm have been converted from the disclosed 1,7 inch.

Therefore, claim 9 is clearly and unambiguously disclosed in the parent and divisional application.

2.4 In conclusion, the patent as amended according to auxiliary request 2 meets the requirements or Articles 123(2) and 76(1) EPC.

3. Clarity - Article 84 EPC

The opposition division held in the appealed decision (see section 15.5) that amended claim 1 was clear.

3.1 The opponent argued (see statement of grounds of appeal, section 5) that the added feature 1.3a was not clear since it was not clear where exactly the claimed planes would be located since a plane was a two-dimensional object, whereas both the claimed modules and trays were three-dimensional.

Even assuming that the modules and trays had a major surface, this would only assist to explain the orientation of the planes, but did not illustrate where these planes are located with respect to the modules or the trays. An object did not inherently have a plane, and therefore it was possible to assign a large number of planes to both the modules and the trays. The exact location of the planes was therefore not clear.

In addition, the phrase *"are installed between adjacent ones"* was also not clear. Firstly, the word *"adjacent"* used alone was generally imprecise in meaning, and this meaning was not further clarified by the patent specification. Secondly, the word "ones" was generally a numerical term in the English language, although used here it seemed to fulfil the role of an indefinite article. It was therefore not clear whether the claim restricted the number of adjacent module rail guides to one single adjacent module rail guide or not.

3.2 The board is not convinced by these arguments and agrees with the opposition division and the patent proprietor's line of argument (see letter dated 5 June 2024, pages 8 to 10 and letter dated

25 February 2025, section 5.2.2) for the following reasons.

The skilled person understands that the term *"major plane"* in the context of the geometry of a tray represents the larger flat surface of the tray. This is also consistent with the disclosure of documents A1 and A2 (see Figures 3 and 8) clearly showing a tray with a major plane.

Regarding the fiber optic modules, claim 1 defines them as *"orientated in the same plane as the major plane of the fiber optic equipment tray"* (feature 1.3a). The skilled person understands that the fiber optic modules, in order to be oriented in the same plane as the tray, have a dominant plane. As a consequence, the claimed requirement that the fiber optic modules are oriented in the same plane as the major plane of the fiber optic equipment tray defines the claimed subject-matter in a clear way such that the requirement of Article 84 EPC is met.

4. Novelty in view of document D1

The opposition division held (see decision, section 15.8) that the subject-matter of claim 1 was new in view of document D1 since document D1 did not disclose features 1.2 and 1.3a.

4.1 The proprietor argued that document D1 could not sensibly be mapped to the subject-matter of claim 1 because the opposition division's and the opponent's interpretation disregarded the technical meaning of the terms "equipment rack" and "chassis". These terms were not arbitrary names for generic features which could be

mapped onto document D1 but were instead terms which had a specific technical meaning to the person skilled in the field of fiber optical equipment.

4.2 The board is not convinced by the patent proprietor's line of argument for the following reasons.

The argument that an equipment rack was a frame having at least two uprights that include fixing mechanisms is not convincing. Even the definition of a rack as given in document D11 does not support this narrow interpretation, as this definition only requires a *"frame in which one or more pieces of equipment are mounted"*. As the optical wiring/distribution board (10) of document D1 meets this definition, it can be seen as an equipment rack.

In addition, the wiring/distribution board of document D1 also meets the definition of a rack according to the Oxford English Dictionary (see proprietor's statement of grounds of appeal, page 7: *"a framework [...] in [...] which articles may be placed"*).

The proprietor's reference to example products from the applicant of document D1 does not change this interpretation of claim 1, as the features of claim 1 and document D1 have to be interpreted in view of their general meaning and without restricting their meaning e.g. by reference to other documents (which are, in addition, published after the relevant priority date of the patent).

Furthermore, the termination frames (11, 12) of document D1 can be seen as the chassis as claimed in feature 1.1, as they have opposite front and rear ends that are spaced apart from one another in a

longitudinal direction and are configured to be disposed in the equipment rack (i.e. optical wiring board 10). In the board's view, the feature "chassis" does not imply any further restrictions but has to be understood according to its general meaning as a supporting frame of a structure.

The proprietor's argument that it was not possible to directly and unambiguously derive from document D1 that the termination frames (11, 12) have *"opposite front and rear ends (24, 26) that are spaced apart from one another in a longitudinal direction"* as claimed, is not convincing either, as the termination frames necessarily must have front and rear ends that are spaced apart from one another. The existence of such front and rear ends can be used to define this direction as the longitudinal direction.

Finally, the termination portions (21) in D1 can be seen as the plurality of equipment trays which receive the optical modules.

The proprietor also stated that *"a rack cannot be a cabinet"* unless the normal definition of the word rack was entirely ignored. The board notes that the question to be answered is rather whether the termination frame and the termination portion disclosed in document D1 can be seen as chassis and tray respectively. As discussed above, the board agrees with the opponent that this is the case.

4.3 The opponent argued (see statement of grounds of appeal, section 7) that the subject-matter of claim 1 was not novel in view of document D1 since, in contrast to the opposition division's findings,

document D1 also disclosed features 1.2 and 1.3a for the following reasons:

Feature 1.2

A person skilled in the art understood that document D1 disclosed at least implicitly that guides were provided for guiding the trays, since document D1 (see Figure 3) disclosed two flanges on two opposite sides of the termination portion (21). The person skilled in the art understood that during the installation of the termination portions (21, 22) in the termination frames (11, 12) (see Figure 1), a mechanism was provided that supported and guided the termination portions while they are inserted into the termination frames.

Further, the person skilled in the art understood that the termination portions (21, 22) had to be supported by a mechanism of the termination frame (11, 12) at an end of the termination portions opposite the end of the termination portions at which the two flanges are arranged, since otherwise, large moments resulting from the weight of the termination portions would occur at the two flanges.

Feature 1.3a

According to the opposition division (see decision, section 14.8), document D1 clearly disclosed (see Figure 2) feature 1.3, i.e. a plurality of optical fiber equipment trays (20), each including a plurality of module rail guides (23a). The opponent argued that, applying this feature mapping to feature 1.3a, it could be seen that the plurality of fiber optic modules were installed between adjacent ones of the plurality of module rail guides since each of the fiber optic

modules can be considered to be installed in adjacent rail guides. Taking the main plane of the fiber optic tray to be aligned with the body of the tray (21), and the plane of the modules to be aligned with the modules (30) of D1, the plane of the modules could indeed be seen to be oriented so as to be in the plane of the fiber optic equipment tray.

The opponent argued that the opposition division misinterpreted feature 1.3a since feature 1.3a did not specify that the modules are arranged parallel to the major surface of the tray, but rather that the plane of the fiber optic modules are "oriented in the same plane as the major plane of the fiber optic equipment tray". In fact, a parallel orientation of the planes of the modules and the tray was the only way to ensure that there would most definitely not be any point at which the plane of the modules would be oriented in the major plane of the fiber optic equipment tray.

4.4 The board is not convinced by the opponent's arguments and agrees with the opposition division and the patent proprietor that document D1 does not disclose features 1.2 and 1.3a.

Feature 1.2

Although document D1 (see Figure 3) discloses flanges which appear to include bolt holes for attachment of the termination portions (21, 22) to the termination frame (11, 12) of the optical wiring board (10), it is silent on how the terminating portions are installed into the termination frames and, in particular, does not give details of any system for guiding the terminating portions into the termination frames.

The board is also not convinced by the opponent's line of argument that a guide system including tray rail guides is implicitly disclosed in document D1, as such an implicit disclosure would imply that nothing else other than a rail based guide system could possibly be present for installing the terminating portions to the termination frames. Based on the actual disclosure of document D1, the existence of a guide system having rails as presented by the opponent is purely hypothetical and the provision of such a system rather a question of inventive step (see inventive step discussion below).

Feature 1.3a

The board agrees with the patent proprietor that document D1 (see Figure 2) discloses that the termination portion (21) supports optical modules (30) in the manner that a bookshelf supports books. In other words, the modules are supported in the termination portion on their thin edges, extending vertically like books on a shelf. Thus, the optical modules in document D1 are oriented perpendicular to the major plane of the equipment tray but not as defined in feature 1.3a, i.e. in the same plane as the major plane of the fiber optic equipment tray

4.5 In conclusion, document D1 discloses all features of claim 1, but features 1.2 and 1.3a.

Therefore, the subject-matter of claim 1 is new in view of document D1 (Article 54 EPC).

5. Inventive step - document D1 as closest prior art

5.1 The opposition division held that the subject-matter of claim 1 was inventive in view of document D1 as closest prior art.

Although feature 1.2, i.e. the provision of a guide system was within the skilled person's common general knowledge, the skilled person, when starting from document D1, would have no hint or motivation to move from the "bookshelf" arrangement of the modules as known from document D1 to the arrangement as defined in feature 1.3a.

5.2 The patent proprietor argued that the subject-matter of claim 1 was inventive over document D1.

5.3 The opponent argued that features 1.2 and 1.3a related to separate, unrelated problems and therefore applied the partial problem approach.

To solve the problem associated with feature 1.2, the skilled person would have turned to document D3 and would have modified the fiber optic apparatus known from document D1 such that the trays or termination portions would be received in guide grooves attached to the termination frames or formed in the termination frames.

Regarding feature 1.3a, the opponent argued that, if at all, the effect of feature 1.3a was that it enabled the fiber optic modules to be located on the equipment tray and that the claimed arrangement was known from documents D2 and D3.

In summary, claim 1 of auxiliary request 2 lacked an inventive step over document D1 as closest prior art in combination with document D3 alone or in combination with documents D3 and D2.

5.4 The board agrees with the opponent that features 1.2 and 1.3a solve separate and unrelated problems and that they can be treated independently.

5.4.1 Feature 1.2

The board is not convinced by the proprietor's arguments but agrees with the opposition division and the opponent.

Problem to be solved by feature 1.2

The patent proprietor argued that the technical effect of the tray rail guides of feature 1.2 was to allow each tray in a dense stacked column of trays to be independently and repeatedly moved, enabling access to the modules within the tray. Therefore, the objective technical problem to be solved was how to provide a densely packed arrangement of fiber optic modules whilst maintaining access to each fiber optic module.

The board does not agree with the patent proprietor that feature 1.2 has the effect of a denser arrangement of the modules.

The board agrees with the opponent (see statement of grounds of appeal, section 8.3 and 8.4) that the provision of a guide system supports and guides the termination portions (i.e. equipment trays) when they are inserted into the termination frames (i.e. the chassis). Therefore, the problem to be solved can be

regarded as improving installation and handling of the termination portions (i.e. the equipment trays).

Obvious for the skilled person

With respect to the implementation of this feature, i.e. the provision of a guide system in the chassis to support the equipment trays via tray rail guides, the board agrees with the opponent and the opposition division that this is within the skilled person's common general knowledge.

The board notes that already document D1 (see document D1a, [0026] and [0044]) uses guide pieces 32 and collar portions 33 to be inserted in guide grooves 23a in order to allow independent translation of the modules within the equipment trays.

The board also agrees that, in addition, also document D3 (see column 4, lines 32 to 31 and Figures 2 and 3) discloses a guide system in the context of a fiber optical system.

The proprietor argued that the skilled person would not modify D1 because the termination portions 21 were clearly intended to be fixed in place and that there was no need to move the termination portions 21 in D1 at all during access of the optical modules 30. Including any tray rail guides to allow frequent movement of the termination portions 21 thus went against the teaching of D1.

The proprietor further argued that the use of a guide system in document D1 would not be possible because such a guide system would entirely obstruct access to the levers (25c), block the paths of the fiber optic

cables and prevent the termination portions 21 from being independently translated about the termination frames (11, 12).

The board is not convinced by this argument because in document D1 the termination portions are inserted into the termination frame without the levers (25c) being obstructed. The addition of a guide system (e.g. at the side of the termination portions) does not lead to an obstruction of the lever. In addition, as a guide system would be added to the side of the termination portions, the board does not agree that the fiber optic cables, which lead out at the front of the optical modules would be blocked. Finally, it is the provision of a guide system which would allow the termination portions (21) to be independently translated about the termination frames (11, 12).

The proprietor further argued that the addition of a guide system would go against the aim of document D1 (i.e. to fix the termination portions (21) in place and access the optical modules (30) by sliding them out of either side of the termination portions), complicate the procedure of mounting the termination portions and restrict the number of mounting locations.

The board is not convinced by these arguments because the addition of a guide system in document D1 would not complicate the mounting procedure but facilitate the installation and handling of the termination portions while still allowing access to individual optical modules by sliding them out. In addition, the skilled person is readily aware that the installation would be simplified as the provision of a guide system would support and guide the termination portions during insertion. The number of possible installation

locations is defined by the number of guide rails and the skilled person would foresee them as needed.

The proprietor's arguments with respect to the alleged effect of the claimed invention of a more densely packed arrangement enabled by housing multiple trays stacked within the same box-like chassis is not convincing, as the above identified difference does not have this effect and the claim is not restricted to a box-like chassis.

In conclusion, the board is of the opinion that the skilled person knows guide systems and their advantages (provide guiding between two objects when moved with respect to one another) from their common general knowledge and document D3. The skilled person would, therefore, consider the use of a guide system between the termination portions (21) and the termination frame (10) of document D1 in order to improve installation and handling of the termination portions within the termination frame.

Therefore, feature 1.2 cannot contribute to the presence of an inventive step.

5.4.2 Feature 1.3a

The board is not convinced by the opponent's arguments but agrees with the patent proprietor and the opposition division for the following reasons.

Problem to be solved by feature 1.3a

The opponent argued that feature 1.3a of claim 1 did not contain any requirement for a horizontal

arrangement, nor was there the requirement for the modules to be arranged in parallel.

In addition, it was not clear from the opposed patent what benefit the skilled person would receive by installing fiber optic modules in the claimed arrangement. If at all, the effect of feature 1.3a was that it enabled the fiber optic modules to be located on the equipment tray.

The board is not convinced by the opponent's arguments and agrees with the patent proprietor that the benefit of the claimed arrangement is a simple installation with the possibility of an increased installation density of modules. This is also in line with the problem as described in the application as filed (see document A2, paragraph [0009]) and the patent (see paragraph [0004]) which discuss the need to improve access in cases of increased density.

Not obvious for the skilled person

The opponent argued that document D2 (see Figure 1) disclosed trays (in the form of mounting frames 12, 13a, 14) and modules (in the form of PIUs 3a, 3b) which appeared to be located in the same plane as the major plane of the provided trays. This feature also permitted the modules to be located on the equipment tray, and therefore the skilled person would seek to combine documents D1 and D2 to arrive at feature 1.3a.

In addition, document D3 (see Figures 1 and 2) disclosed modules that were installed between adjacent module rail guides (guide flanges 100) that appeared to be oriented in the same plane as the major plane of the fiber optic equipment tray. For example if the major

plane was considered to extend along the longest possible distance of the tray (e.g. corner-to-corner), then the modules were located at least partially in said plane. This feature also permitted the modules to be located on the equipment tray, and therefore the skilled reader would have arrived at feature 1.3a by combining documents D1 and D3.

The board is not convinced that the skilled person would have modified the fiber optic apparatus known from document D1 as alleged by the opponent:

Document D1 is not concerned with optimising the density of optical connections in the fiber optic apparatus disclosed therein.

In addition, none of the documents D1, D2 and D3 contains a reason or motivation for the skilled person to move from the bookshelf type module arrangement known from document D1 to a horizontal arrangement of the modules.

Even if the skilled person would contemplate this change of the arrangement of the modules, it would not be possible to orientate the modules in document D1 in a horizontal fashion without a complete redesign of the arrangement.

Furthermore, even though documents D2 (see Figure 9) and document D3 (see Figure 2) show horizontal arrangements of modules, the skilled person would, when applying this teaching at all, move from a bookshelf type arrangement to an arrangement in which the modules would be arranged in a single column above each other, i.e. like a "pile of books". In this case they would be *"oriented in the same plane as the major plane of the*

fiber optic equipment tray" as required by parts of feature 1.3a but would no longer be "*arranged as a single row*" as required by feature 1.3.

In conclusion, the skilled person, when starting from document D1 and combining it with either document D2 or D3 would not arrive in an obvious manner at the claimed subject-matter. Therefore, the subject-matter of claim 1 is inventive over a combination of document D1 with either one of the documents D2 or D3.

6. Further novelty and inventive step objections - Admittance

6.1 Auxiliary request 2 was filed during the oral proceedings before the opposition division.

Regarding this request, the decision under appeal mentioned Articles 54 and 56 EPC (see section 15.6) and discussed inventive step in view of document D1 as closest prior art in combination with document D2 or D3 (see sections 15.7 to 15.10).

However, during the appeal procedure, the opponent raised the following new objections against auxiliary request 2:

- novelty based on document D2 (see statement of grounds of appeal, sections 7.16 to 7.22)
- inventive step based on document D1 as closest prior art in combination with document D3, arguing for the first time that feature 1.3a was known from from D3 (see statement of grounds of appeal, sections 8.11 and 8.15)
- inventive step based on document D1 as closest prior art in combination with document D5 (see

statement of grounds of appeal, sections 8.12 to 8.15)
- inventive step based on document D2 as closest prior art alone or in combination with any of the documents D1 and D4 to D8 (see statement of grounds of appeal, sections 8.16 to 8.31)
- inventive step based on document D9 as closest prior art in combination with any of the documents D1 and D3 to D8 (see statement of grounds of appeal, sections 8.32 to 8.44)
- inventive step based on document D3 as closest prior art in combination with any of the documents D1, D2 and D4 to D8 (see statement of grounds of appeal, sections 8.45 to 8.58)

As these objections were not part of the appealed decision (Article 12(2) RPBA), they are to be regarded as amendments of the opponent's case which may be admitted only at the discretion of the board.

6.2 The opponent argued that the amendments in auxiliary request 2 originated from a group of non-convergent auxiliary requests which were filed during the written phase of the first-instance proceedings.

Consequently, the opponent was faced with the situation of having to prepare, only a few weeks before the hearing, for nine new requests, all incorporating new and different features from the description and the figures.

Filing auxiliary request only during the oral proceedings before the opposition division, severely limited the time permitted for the opponent to consider the clarity, novelty and inventive step of the claimed subject-matter of this request.

As the postponement of the oral proceedings, requested by the opponent, was refused by the opposition division, and in order to preserve the opponent's right to be heard, objections and arguments not advanced at the first instance had to be considered admissible in the appeal procedure.

6.3 The board is not convinced by the opponent's reasons for submitting these objections against auxiliary request 2 for the first time in the appeal proceedings for the following reasons:

In comparison to higher ranking requests discussed during the oral proceedings before the opposition division, auxiliary request 2 comprises the additional feature 1.3a which stems from auxiliary request 15 filed on 19 May 2023 in time for the preparation of these oral proceedings.

The board is therefore of the opinion that the opponent had enough time to consider the amendments in the auxiliary requests filed by the patent proprietor and in particular also enough time to prepare objections against feature 1.3a.

During the oral proceedings before the opposition division the objections under Articles 76(1), 123(2) and 84 EPC were discussed (see minutes, sections 4.8 to 4.12) and the opponent raised an inventive step objection based on document D1 as closest prior art in combination with document D2 (see minutes, section 4.13 and 4.15). At the end of the discussion of auxiliary request 2, the opponent confirmed that it had presented all its arguments (see minutes, section 4.16) against auxiliary request 2. Therefore, also the opponent's

right to be heard with respect to auxiliary request 2 has been observed.

The board is therefore of the opinion that the above listed new objections against auxiliary request 2 should have been submitted in the proceedings leading to the decision under appeal and that there are no circumstances of the appeal case which would justify their admittance.

Therefore, the board did not admit these objections into the appeal proceedings (Article 12(4) and (6) RPBA).

Order

For these reasons it is decided that:

The appeal of the opponent is dismissed.

The Registrar: The Chairman:

L. Gabor R. Bekkering

Decision electronically authenticated