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Datasheet for the decision of 13 November 2025

Case Number: T 1292/24 - 3.5.04

Application Number: 16708712.1

Publication Number: 3259859

IPC: H04H20/63, H04N7/10

Language of the proceedings: EN

Title of invention:
EXPANDABLE MODULAR GATEWAY UNIT

Applicant:
Global Invacom Ltd.

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (yes)

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Boards of Appeal

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Case Number: T 1292/24 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 13 November 2025

Appellant: (Applicant)	Global Invacom Ltd. Unit 3 Caxton Place Caxton Way Potters Lane Stevenage, Hertfordshire SG1 2UG (GB)
Representative:	Wood, Graham Bailey Walsh & Co LLP 1 York Place Leeds, LS1 2DR (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 6 June 2024 refusing European patent application No. 16708712.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	B. Willems
Members:	M. Paci
	G. Decker

Summary of Facts and Submissions

I. The appeal is against the examining division's decision refusing European patent application No. 16 708 712.1, published as international patent application WO 2016/132142 A1.

II. In the Summary of Facts and Submissions of the decision under appeal, the examining division cited the following documents.

D1: US 2006/0187954 A1
D2: WO 00/47029 A1
D3: US 2006/0059537 A1
D4: US 6 008 985 A1

III. The decision under appeal was based on the grounds that the subject-matter of the claims of the sole request then on file did not involve an inventive step (Article 56 EPC) in view of prior-art documents D1 and D4.

IV. The applicant (appellant) filed notice of appeal. With its statement of grounds of appeal, the appellant requested that the appealed decision be set aside and that a patent be granted on the basis of the claims of a main request corresponding to the sole request underlying the decision under appeal, or, alternatively, on the basis of an auxiliary request filed with the statement of grounds of appeal.

V. A summons to oral proceedings was issued. In a communication under Article 15(1) RPBA, the board gave the following preliminary opinion.

- Claim 1 of the main request was not clear (Article 84 EPC).
- The subject-matter of claim 1 was not rendered obvious (Article 52(1) and Article 56 EPC) by prior-art documents D1 to D4.
- The same conclusions were reached with respect to claim 1 of the auxiliary request.

VI. With a letter dated 14 October 2025, the appellant filed amended claims according to a sole request, which were to replace the claims of the main request and auxiliary request previously on file. The appellant also filed amended description pages 3 and 4.

VII. In a communication dated 22 October 2025, the board made the following observations.

- The current two-part form (Rule 43(1) EPC) was not properly applied in claim 1. Moreover, in the present case it was not appropriate to use the two-part form in any case because it would be detrimental to the clarity of the claim.
- There were some inconsistencies between the description and the claims.

VIII. With a letter dated 24 October 2025, the appellant filed amended claims according to a new sole request, which were to replace the claims of the previous sole request on file. The appellant also filed amended description pages 3, 4, 8 and 15.

IX. The board then cancelled the oral proceedings.

X. The appellant's final request was that the decision under appeal be set aside and that a European patent be granted on the basis of the following patent application documents:

Claims:
- No. 1 to 7 as filed with the letter dated 24 October 2025

Description:
- Pages 1, 2 and 16 to 21 of the application as published
- Pages 5 to 7 and 9 to 14 as filed with the letter dated 23 February 2023
- Pages 3, 4, 8 and 15 as filed with the letter dated 24 October 2025

Drawings:
- Sheets 1/5 to 5/5 of the application as published

XI. Independent claim 1 of the appellant's **sole request** reads as follows:

"*Apparatus (15) in the form of a base modular unit, one or more further modular units (2'; 2") and a cap portion (16), said base modular unit (2) includes a housing, a port for the connection of at least one data feed (11;11';11"; 20, 20', 20") including data to allow the generation of video and/or audio for a plurality of television and/or radio programmes to be available from a plurality of output ports (8) on the base modular unit (2), data combining means provided within the housing which allows the data received from the said data feed (11;11';11"; 20, 20', 20") to be made available through each of the said output ports (8), the base modular unit (2) includes a plurality of input connection ports (12) to allow the transfer of data from one or more connected further modular units (2'; 2") to the said base modular unit (2) and the data combining means allow the data from the said*

one or more further modular units (2'; 2") to also be available through the said output ports (8) of the base modular unit (2), the base modular unit (2) and one or more further modular units (2',2") each receiving a said data feed (11;11';11"; 20, 20', 20"), and said one or more further modular units (2', 2") being connected with the base modular unit (2) in sequence and the data received by each of the said further modular units (2', 2") from the respective data feeds (11;11'; 11"; 20, 20', 20") is successively combined and passed to the base modular unit (2) via the connection of output ports (8) of a further modular unit with the input connection ports (12) of an adjacent further modular unit or the base modular unit wherein a cap portion (16) is provided for selective engagement to a face (10) of the base modular unit (2) or face (10) of the one or more further connected modular units (2',2") which is located at the furthest distance from the face (6) of the said base modular unit (2) at which said plurality of output ports (8) are provided such that said cap portion (16), when engaged to said face (10), masks the unused input connection ports (12) located at said face (10) so that only the plurality of output ports (8) of the base modular unit (2) remain uncovered regardless of the apparatus being used in any of a base modular unit only configuration, a base modular unit and one further modular unit configuration or base modular unit and a plurality of sequentially connected further modular units configuration, so that only said output ports (8) from the base modular unit are available to be selectively attached to cables (25) to allow the passage of data therefrom to one or more data processing apparatus (13) to allow the generation of video and/or audio."

Reasons for the Decision

1. The appeal is admissible.

The invention

2. The invention concerns an apparatus (e.g. a Gateway Termination Unit) which allows one or more data feeds carrying video and/or audio data (e.g. TV streams from different satellites) to be combined and distributed via a plurality of output ports to one or more user locations (e.g. one or more flats in a building).

Preliminary remark

3. The board considers it expedient, for the sake of clarity of the current decision, to label the features of claim 1 as follows.

[F1] Apparatus (15) in the form of a base modular unit, one or more further modular units (2'; 2") and a cap portion (16), said base modular unit (2) includes
[F2] a housing,
[F3] a port for the connection of at least one data feed (11; 11'; 11"; 20, 20', 20") including data to allow the generation of video and/or audio for a plurality of television and/or radio programmes to be available from
[F4] a plurality of output ports (8) on the base modular unit (2),
[F5] data combining means provided within the housing which allows the data received from the said data feed (11; 11'; 11"; 20, 20', 20") to be made available through each of the said output ports (8),
[F6] the base modular unit (2) includes a plurality of input connection ports (12)

[F7] to allow the transfer of data from one or more connected further modular units (2'; 2") to the said base modular unit (2) and
[F8] the data combining means allow the data from the said one or more further modular units (2'; 2") to also be available through the said output ports (8) of the base modular unit (2),
[F9] the base modular unit (2) and one or more further modular units (2', 2") each receiving a said data feed (11; 11'; 11"; 20, 20', 20"), and
[F10] said one or more further modular units (2', 2") being connected with the base modular unit (2) in sequence and
[F11] the data received by each of the said further modular units (2', 2") from the respective data feeds (11; 11'; 11"; 20, 20', 20") is successively combined and passed to the base modular unit (2) via the connection of output ports (8) of a further modular unit with the input connection ports (12) of an adjacent further modular unit or the base modular unit wherein
[F12] a cap portion (16) is provided for selective engagement to a face (10) of the base modular unit (2) or face (10) of the one or more further connected modular units (2', 2") which is located at the furthest distance from the face (6) of the said base modular unit (2) at which said plurality of output ports (8) are provided
[F13] such that said cap portion (16), when engaged to said face (10), masks the unused input connection ports (12) located at said face (10) so that only the plurality of output ports (8) of the base modular unit (2) remain uncovered regardless of the apparatus being used in any of a base modular unit only configuration, a base modular unit and one further modular unit configuration or base modular unit and a

plurality of sequentially connected further modular units configuration,
[F14] so that only said output ports (8) from the base modular unit are available to be selectively attached to cables (25) to allow the passage of data therefrom to one or more data processing apparatus (13) to allow the generation of video and/or audio.

Amendments (Article 123(2) EPC)

4. The board is satisfied that the amendments made to the claims and the description meet the requirements of Article 123(2) EPC.

Clarity (Article 84 EPC)

5. The board is satisfied that the claims meet the requirements of clarity of Article 84 EPC and, in particular, overcome the clarity objections raised in the board's communication under Article 15(1) RPBA.

In the case in hand, the board considers it inappropriate to use the two-part form because the distinguishing features are so interspersed with the known features (see point 8.3 below) that using the two-part form would be detrimental to the clarity of claim 1.

Inventive step (Articles 52(1) and 56 EPC)

6. Closest prior art

It is undisputed that document D1 represents the closest prior art for the subject-matter of claim 1.

7. Disclosure of document D1

Document D1 discloses a modular expandable gateway (160 in Figure 1) comprising a base module (100) and one or more expansion modules (105a to 105c). The expansion modules are successively stacked on the base module via matching connectors (see Figure 1 and paragraph [0091]).

The base module (Figure 2) comprises an input port (205) connecting to an external communication channel (103), an Ethernet output port (225) for a user network device (see paragraph [0068] and 110 in Figure 1) and an expansion connector (250) for connection with the next expansion module.

Different types of expansion modules may be stacked on the base module. Expansion module 105a (Figure 3) adds a plurality of Ethernet output ports (325a to 325d) for user network appliances (see paragraph [0097]). Expansion module 105b (Figure 4) adds an input port connecting to a faster external communication channel (125 in Figure 1 and the last sentence of paragraph [0070]) and, like expansion module 105a, adds a plurality of Ethernet output ports (425b to 425d and 425g). Expansion module 105c (Figure 5) adds means (510, 515) for wireless communication of the gateway with user appliances (see paragraph [0130]).

When either expansion module, 105a or 105b, is connected to the base module, the data traffic from input port 205 of the base module to output port 225 of the base module makes a detour via the expansion module to avoid a conflict between the Ethernet switch (310 or 410) in the expansion module and the physical layer

transceiver (210) in the base module (see paragraphs [0102] and [0121]).

8. Distinguishing features

8.1 The examining division held that the distinguishing features of claim 1 were features F12 to F14 (see points 13.1 and 13.2 of the impugned decision).

8.2 In its statement of grounds of appeal, the appellant did not dispute the examining division's finding that the distinguishing features were features F12 to F14.

8.3 In the board's view, document D1 discloses the following features of claim 1.

[F1] Apparatus in the form of a base modular unit, one or more further modular units and a cap portion **(see modular expandable gateway 160 in Figure 1 comprising base module 100, further modules 105a to 105c and a cap portion, see paragraph [0092]: the expansion module with no output expansion connector is effectively a "cap portion")** which includes
[F2] a housing **(see "housing" in paragraph [0074])**,
[F3] a port **(205 in Figure 2)** for the connection of at least one data feed **(e.g. data received from the internet via ADSL communication channel 103, see paragraphs [0066] and [0074])** including data to allow the generation of video and/or audio for a plurality of television and/or radio programmes **(the data received from the internet via ADSL communication channel 103 may include video and/or audio data for television and/or radio programmes, see paragraph [0138])** to be available from

[F4] a plurality of output ports on the base modular unit **(base module 100 has two output ports: Ethernet output port 225 and expansion connector 250),**
[F5] data ~~combining~~ means provided within the housing which allows the data received from the said data feed to be made available through each of the said output ports, **(the data from port 205 is made available both on Ethernet output port 225 and on expansion connector 250)**
[F6] the base modular unit includes a plurality of input connection ports **(base module 100 has a plurality of input connection ports: connection port 205 is an input port and expansion connector 250 is an input/ output port; expansion connector 250 operates as an input port when it receives Ethernet data from the expansion module 105a or 105b via Ethernet bus 330e or 430e, see Figures 2 to 4 and paragraphs [0102] and [0121]; moreover, expansion connector 250 may consist of a plurality of distinct physical connectors instead of a single connector: see paragraph [0090])**
[F7] to allow the transfer of data from one or more connected further modular units to the said base modular unit **(when either expansion module 105a or 105b is connected to the base module, Ethernet data flows from the expansion module to output port 225 of the base module via expansion connector 250 and Ethernet bus 330e or 430e)** and
[F8] the data ~~combining~~ means allow the data from the said one or more further modular units to also be available through the said output port~~s~~ of the base modular unit **(idem),**
[F9] the base modular unit and one or more further modular units each receiving a said data feed **(both base module 100 and expansion module 105b have a data feed: see 205 in Figure 2 and 437 in Figure 4),** and

[F10] said one or more further modular units being connected with the base modular unit in sequence **(see Figure 1)** and

[F11] ~~the data received by each of the said further modular units from the respective data feeds is successively combined and passed to the base modular unit via the connection of output ports of a further modular unit with the input connection ports of an adjacent further modular unit or the base modular unit~~ **(the data received by expansion module 105b is neither combined with data from another data feed nor passed to the base module)**

wherein

[F12] a cap portion is provided for selective engagement to a face of the base modular unit or face of the one or more further connected modular units which is located at the furthest distance from the face of the said base modular unit at which said plurality of output ports are provided **(see paragraph [0092]: the expansion module with no output expansion connector is effectively a "cap portion" as defined in feature F12)**

[F13] such that said cap portion, when engaged to said face, masks the unused input connection ports located at said face ~~so that only the plurality of output ports of the base modular unit remain uncovered regardless of the apparatus being used in any of a base modular unit only configuration, a base modular unit and one further modular unit configuration or base modular unit and a plurality of sequentially connected further modular units configuration~~, **(In D1, when the cap portion is engaged, the output ports remaining uncovered are one output port (225) on the base module and a plurality of output ports (325a to 325d and/or 425b to 425d and 425g) on expansion module(s) 105b and/or 105c)**

[F14] ~~so that only said output ports from the base modular unit are available to be selectively attached~~

~~to cables to allow the passage of data therefrom to one or more data processing apparatus to allow the generation of video and/or audio~~. **(idem)**

In summary, the board is of the opinion that the distinguishing features of claim 1 are features F5, F8, F11, F13 and F14.

9. Technical effect and objective technical problem

9.1 The examining division stated that it adopted the appellant's formulation of the (objective) technical problem, namely how "*to form a secure and integral data receiving apparatus that can be selectively formed from a plurality of modules and still ensure that protection for the unused input connection ports of a particular module can be achieved, whatever the configuration*" (see point 13.3 of the impugned decision).

9.2 In its statement of grounds of appeal, the appellant did not formulate an objective technical problem, i.e. a problem solved by the distinguishing features. However, it stated that "*the current invention*" solved the following problems (see the paragraph bridging pages 1 and 2).

(1) How "*to form secure data processing and communication apparatus that can be selectively formed from a plurality of modules at the time of installation so as to allow the capacity of the apparatus to be capable of receiving one or more data feeds which are available at that time and communicate the video and/or audio data from the data feeds to a number of downstream connected user devices*".

(2) How "*to enable the apparatus to be subsequently be [sic] adapted to increase or decrease the data capacity to take into account changes in available data feeds whilst, at the same time, ensuring that the video and/or audio data from the apparatus is provided in the same format to the connected devices and without adaptation or change of the said devices being required*".

(3) How "*to prevent unauthorised access to exposed ports of a set of connection means of one of the modular units when not in use so as to prevent damage to the said ports and/or prevent the inadvertent connection of apparatus thereto*".

9.3 The board's view regarding the technical effect and the objective technical problem is set out below.

The distinguishing features (F5, F8, F11, F13 and F14) can be summarised as the following features A to C.

(A) The video and/or audio received by the respective data feeds of the one or more further modular units are combined in at least one further modular unit if there is more than one further modular unit, they are combined in the base modular unit with the data feed of the base modular unit and they are made available through the plurality of output ports of the base modular unit (see features F5, F8 and F11).

(B) Only the plurality of output ports of the base modular unit remain uncovered, regardless of the number of further modular units (feature F13).

(C) Only the plurality of output ports of the base modular unit are available for data output via cables (feature F14).

In the board's view, the **technical effect** achieved by features A to C (or features F5, F8, F11, F13 and F14) is that the number of data feeds can be increased or decreased by adding or removing further modular units while all the output ports of the apparatus remain the same, namely the plurality of output ports on the base modular unit, thereby allowing all output connections to remain physically unchanged.

In light of this technical effect, the board considers it appropriate to formulate the **objective technical problem**, without a pointer to the solution, as how to improve the apparatus so that the number of data feeds can be increased or decreased in a convenient and flexible manner.

10. Obviousness

10.1 The board's view on obviousness is set out below.

Like the apparatus of claim 1, the modular gateway structure (160) of document D1 stacks one or more further modular units (105a, 105b, 105c) on a base modular unit (100) and respective data feeds are input to the base modular unit and to at least some of the further modular units (105b).

However, the flow of data differs considerably in D1 and claim 1.

In the apparatus of claim 1, the input data from the data feeds flow from the further modular units towards

the base modular unit, are combined along the way and are output at a plurality of ports on the base modular unit only. In other words, the flow of data between modular units is only from the further modular units towards the base modular unit (a **downwards direction** in Figure 6 of the application as filed) and the output ports are only on the base modular unit, regardless of the number of further modular units.

In contrast, in the modular gateway structure of document D1, the data flows essentially inside each modular unit, i.e. it flows from a data feed (205; 437) to one or more output ports (225; 425b to 425d and 425g), i.e. in a **left-to-right direction** in Figure 1 of D1, or from the base modular unit to a further modular unit (from 205 to 325a-325d or 425b to 425d and 425g), i.e. in an **upwards direction**. The only exception to this data-flow direction is the back-and-forth detour between the base modular unit and the adjacent further modular unit (100a or 100b), as explained in the last paragraph of point 7. above.

As a consequence, when a further modular unit is added to the modular gateway structure of D1, user network devices must be connected to the output ports of the new modular unit. More generally, when one or more further modular units are added or removed, all the user network devices must be reconnected, except for the ones connected to the output port (225) of the base modular unit (see the paragraph bridging pages 1 and 2 of the statement of grounds of appeal).

In view of these different data-flow concepts, the board is of the opinion that the distinguishing features of claim 1 would not have been obvious to the skilled person from document D1 alone.

10.2 The board is of the view that prior-art documents D2, D3 and D4 do not provide a teaching towards the distinguishing features of claim 1.

The examining division only referred to prior-art document D4 as evidence that the "*cap portion*" of feature F12 was obvious.

In the board's view, the examining division's reasoning is not particularly relevant because a cap portion is already known from D1 (see paragraph [0092]: the expansion module with no output expansion connector is effectively a "*cap portion*" as defined in feature F12).

10.3 For the sake of completeness, the board adds that if the "*cap portion*" were not considered to be disclosed in D1, the board would concur with the examining division that it would be obvious for the skilled person in view of the teaching in document D4 to cover unused input and/or output ports to protect and/or forbid unauthorised access to those ports. There is a clear teaching to do this for the last connector in a stack of expansion modules in prior-art document D4 (see column 10, lines 55 to 60, and the left-hand cover 66 in Figure 8). Moreover, in the board's view, a cap portion would also have been obvious to the skilled person as a common-sense measure, even without the teaching of document D4.

11. Conclusion on inventive step

In light of the above, the board is of the opinion that the subject-matter of claim 1 of the sole request on file is not rendered obvious by the prior art cited by the examining division in the decision under appeal.

The same conclusion applies to dependent claims 2 to 7 by virtue of their dependency on claim 1.

12. Conclusion on the sole request

For the reasons set out above, the board concludes that the appellant's sole request is allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the examining division with the order to grant a patent in the following version:

Claims:
No. 1 to 7 as filed with the letter dated
24 October 2025

Description:
- Pages 1, 2 and 16 to 21 of the application as published
- Pages 5 to 7 and 9 to 14 as filed with the letter dated 23 February 2023
- Pages 3, 4, 8 and 15 as filed with the letter dated 24 October 2025

Drawings:
Sheets 1/5 to 5/5 of the application as published

The Registrar: The Chair:

K. Boelicke B. Willems

Decision electronically authenticated