**Reference book:** yes

**BGHZ:** no

**BGHR:** yes

**Data packet conversion**

PatG Sections 81, 116 (2)

**a)** Once the term of protection of a patent has expired, an infringement action, even if it is based only on the main claim, normally creates a legal interest for the infringer in an invalidity action also with regard to all sub-claims of the patent which are related to the main claim.

**b)** In any case, nothing else applies to ancillary claims if their content is so largely identical that the realisation of one claim (e.g. a device claim) typically leads to the realisation of the features of the other claim (e.g. a method claim).

**c)** The defence of an amended version of a patent, which has been asserted for the first time in the appeal instance, is generally admissible under Sec. 116 (2) Patent Law, if the new request differs from a request already filed in the first instance only in that some of the features added to the granted version have been deleted (confirmation of BGH, judgement of 20 March 2014 - X ZR 128/12 marginal no. 52).

BGH, judgment of 11 August 2020 - X ZR 96/18 - Federal Patent Court

# FEDERAL SUPREME COURT

## IN THE NAME OF THE PEOPLE

## JUDGMENT

X ZR 96/18

Announced on:
11 August 2020
Zöller
Judicial Employee as
a clerk of the office

in the patent nullity case

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With respect to the oral hearing of 11 August 2020 the X. Civil Senate of the Federal Supreme Court by the presiding judge Dr Bacher, the judge Dr Grabinski and the judges Dr Marx, Dr Rombach and Dr Linder

has ruled as follows:

> Upon appeal and cross-appeal, the judgment of the 5th Senate (Nullity Senate) of the Federal Patent Court of 15 November 2017 will be amended under rejection of further remedies.
>
> The European Patent 1 280 279 is declared partially invalid with effect for the territory of the Federal Republic of Germany by the fact that claims 1 to 20 lapse, claims 21 and 22 are replaced by the version reproduced below and claims 23 to 26 are based on this version:
>
> 21. Device (100; 200) for compressing data packets, comprising input means (110; 210) for receiving a first series of data packets (10) each having a header field (h) and a data field (d), identification means (110; 210) for determining the channel (A, B, ...) of the data packets received, processing means (130; 230) for compressing the data field of each data packet to be compressed, and output means (160; 260) for forming a second series (20) of data packets each having a header field and a data field, and for accommodating, in the data field of a data packet of the second series (20), a compressed data field of the first series (10), characterized in that processing means (130; 230) are provided, for compressing per channel (A, B, ...) data to be accommodated in a data field of the second series (20) and for accommodating, in each data field of the second series (20), data of only one channel (e.g. A) and buffer

means (161; 261) are provided for buffering, per channel (A, B, ...) compressed data to be accommodated in a data field of the second series (20).

22. Device (100; 200) according to claim 21, wherein said buffer means are separate buffer means (161; 261).

Apart from that, the complaint is dismissed.

Of the court fees, four ninths of the costs are to be borne by the plaintiff, two ninths by the plaintiff and one third by the defendant.

The defendant is ordered to pay one third of the extrajudicial costs incurred by the first plaintiff and four ninths of the extrajudicial costs incurred by the defendant.

By law

Facts of the case:

1        The defendant is the registered owner of European Patent No. 1 280 279 (patent in dispute), granted with effect in the Federal Republic of Germany, resulting from a divisional application of the international application WO 95/20285 filed on 29 December 1994, claiming the priorities of two Dutch patent applications of 21 January 1994 and 25 November 1994. The patent in dispute concerns methods and devices for converting and transmitting a series of data packets by

means of data compression. Claims 1 and 21 are worded in the language of the proceedings:

1. Method for converting a first series (10) of data packets, each having a header field (h) and a data field (d), into a second series (20) of data packets, each having a header field (h) and a data field (d), both series comprising data packets of a plurality of channels (A, B), and data from the data fields of the first series (10) being subjected to a compression process (P) and then being accommodated in the data fields of the second series (20), characterized in that each data field of the second series (20) contains data of only one channel (e.g. A) and data to be accommodated in the data fields of the second series (20) are compressed per channel.

21. Device (100; 200) for compressing data packets, comprising input means (110; 210) for receiving a first series of data packets (10) each having a header field (h) and a data field (d), identification means (110; 210) for determining the channel (A, B, ...) of the data packets received, processing means (130; 230) for compressing the data field of each data packet to be compressed, and output means (160; 260) for forming a second series (20) of data packets each having a header field and a data field, and for accommodating, in the data field of a data packet of the second series (20), a compressed data field the first series (10), characterized in that processing means (130; 230) are provided, for compressing per channel (A, B, ...) data to be accommodated in a data field of the second series (20) and for accommodating, in each data field of the second series (20), data of only one channel (e.g. A).

2       Claims 2 to 20 are related to claim 1, claims 22 to 25 to claim 21. Claim 26 concerns a system for transmitting data packets in compressed form, comprising at least a device according to any of the claims 21 to 25.

3        The first plaintiff (hereinafter 'the plaintiff'), who is being sued by the defendant for infringement of the patent in dispute on the basis of the patent claim, applied for the patent in dispute to be declared invalid. It claimed that the subject matter of the patent in dispute went beyond the content of the original application and was not patentable. The defendant requested that the action be dismissed and, in the alternative, defended the patent in dispute by three forms of order in the alternative, as amended.

4        The plaintiff under 2), who had also applied for complete annulment, withdrew its action in the course of the appeal proceedings.

5        The Patent Court declared the patent in dispute invalid to the extent of its claim 21 and dismissed the remainder of the action as inadmissible. In its appeal, the defendant continues to seek the complete dismissal of the action. In the alternative, it defends the subject matter of claim 21, as amended in thirteen versions. The plaintiff challenges the appeal and joins the defendant's appeal with a view to the annulment of the patent in dispute in its entirety. The defendant challenges the cross-appeal.

Reasons for the decision:

6        The appeal and the cross-appeal are admissible. Both appeals have partial success on the merits.

7        I.    The patent in dispute concerns methods and devices for converting and transmitting a series of data packets by means of data compression.

8      1.     According to the description, it was known to compress the data of a series of data packets, each with a header field and a data field, and to transmit the data of the data fields as a second series of data packets. In the case of a method known from European patent application 559 593 (NB3), a data field in the second series may contain data from various sources (channels). For this purpose, the data fields of the second series contain subheader fields for the reconstruction of the channel affiliation. However, this would reduce the transmission capacity for useful data. Furthermore, the subheader fields and the useful data would have to be separated in an additional processing step on the receiving side, which would cause additional work. If the data packets were transmitted via intermediate stations, these would also have to support the compression function.

9      2.     Against this background, the patent in dispute is based on the technical problem of enabling more efficient transmission of compressed data.

10      3.     Claims 1 and 21 propose a method and apparatus to solve the problem, the features of which can be divided as follows (the details of the structure of the patent court are given in square brackets)

11      a)     Patent claim 1:

| M1 | Method for converting a first series (10) of data packets into a second series (20) of data packets: | Verfahren, um eine erste Folge von Datenpaketen in eine zweite Folge von Datenpaketen zu wandeln: |
|---|---|---|
| M2.1 [M1.1] | The data packets of the first series (10) each having a header field (h) and a data field (d). | Die Datenpakete der ersten Folge weisen jeweils ein Kopffeld und ein Datenfeld auf. |

| M2.2 [M1.2] | The data packets of the second series (20) each having a header field (h) and a data field (d). | Die Datenpakete der zweiten Folge weisen jeweils ein Kopffeld und ein Datenfeld auf. |
|---|---|---|
| M2.3 [M2] | Both series of data packets comprising data packets of a plurality of channels (A, B). | Beide Folgen von Datenpaketen umfassen Datenpakete aus einer Mehrzahl von Kanälen (A, B). |
| M3.1 | Data from the data fields of the first series (10) being subjected to a compression process (P) and | Daten aus den Datenfeldern der ersten Folge (10) werden einem Komprimierungsprozess (P) unterworfen und |
| M3.2 | then being accommodated in the data fields of the second series (20). | werden dann in den Datenfeldern der zweiten Folge (20) untergebracht. |
| M4.1 | Each data field of the second series (20) contains data of only one channel (e.g. A) and | Jedes Datenfeld der zweiten Folge (20) enthält Daten von nur einem Kanal (z.B. A) und |
| M4.2 | data to be accommodated in the data fields of the second series (20) are compressed per channel. | Daten, die in den Datenfeldern der zweiten Folge unterzubringen sind, werden je Kanal komprimiert. |

12      b)      Patent claim 21:

| D1 | Device (100; 200) for compressing data packets, comprising | Vorrichtung (100; 200) zum Komprimieren von Datenpaketen, umfassend: |
|---|---|---|
| D2 | input means (110; 210) for receiving a first series of data packets (10) each having a header field (h) and a data field (d), | Eingangsmittel (110; 210) zum Empfangen einer ersten Folge von Datenpaketen (10), die jeweils ein Kopffeld (h) und ein Datenfeld (d) aufweisen, |
| D3 | identification means (110; 210) for determining the channel (A, B, ...) of the data packets received, | Identifizierungsmittel (110; 210) zum Erkennen der Kanalzugehörigkeit (A, B, ...) der empfangenen Datenpakete, |

| | | |
|---|---|---|
| D4 | processing means (130; 230) for compressing the data field of each data packet to be compressed, | Verarbeitungsmittel (130; 230) zum Komprimieren des Datenfelds jedes zu komprimierenden Datenpakets |
| D5 [D5.1] | output means (160; 260) | Ausgabemittel (160; 260) |
| D5.1 | for forming a second series (20) of data packets each having a header field and a data field, and | zum Formen einer zweiten Folge von Datenpaketen (20), die jeweils ein Kopffeld und ein Datenfeld aufweisen, und |
| D5.2 | for accommodating, in the data field of a data packet of the second series (20), a compressed data field of the first series (10), | um in das Datenfeld eines Datenpakets der zweiten Folge (20) ein komprimiertes Datenfeld der ersten Folge (10) unterzubringen, |
| D6 [D6.1] | processing means (130; 230) are provided | Es werden Verarbeitungsmittel (130; 230) bereitgestellt |
| D6.1 | for compressing per channel (A, B,..) data to be accommodated in a data field of the second series (20) and | zur kanalweisen (A, B, ...) Komprimierung von Daten, die in ein Datenfeld der zweiten Folge (20) unterzubringen sind, und |
| D6.2 | for accommodating, in each data field of the second series (20), data of only one channel (e.g. A). | um in jedes Datenfeld der zweiten Folge (20) Daten von nur einem Kanal (z.B. A) unterzubringen. |

13      4.    According to the statements of the Patent Court, which are not contested by the parties, a person qualified in electrical engineering with a university degree, who is mainly involved in data transmission and has knowledge and experience in the field of data compression, is to be regarded as a person skilled in the art.

14      5.    Some features need a further discussion:

15       a)    According to the description, a channel in the sense of the patent claims is to be understood as a logical channel between a data source (sending side) and a data destination (receiving side).

16       aa)    Such a channel is not necessarily identical to a physical link between a data source and a data destination. Rather, a large number of channels can be active via a physical connection; moreover, a channel does not have to be assigned to a specific physical connection (para. 14).

17       bb)    Several channels (A, B, ...) are provided, which differ in that they connect different sources from which the data originate to different destinations to which the data are transmitted, whereby the sources can transmit data already formed into data packets or only data streams that can only be formed into data packets by a downstream device (cf. Fig. 6 and para. 68).

18       cc)    According to the embodiment of the invention described in the description, the transmitting and receiving devices must be terminal devices arranged within a network. The procedure claimed can, in principle, be applied at any level of the OSI layer model (para. 17; 43 et seq.). However, this does not change the functional relationships and the user identity defined by the channel (para. 17), so that even when applying the OSI layer model, a channel in the sense of the invention is to be understood as a logical connection between terminal devices on the transmitting and receiving side.

19       dd)    Information to identify the channel, for example the addresses of source and destination, is usually visible in the header fields of the first series of data packets.

20      If the second series of data fields as in the prior art described in the patent specification contains fields with data from several channels, this information must be moved to the data fields, because the header field usually only allows the specification of one channel. If the conversion is carried out in such a way that in the second series of data fields, too, each data packet contains only data from one channel, the information on the channel, however, can remain in the header field and the data fields are fully available for user data.

21      b)      Contrary to the opinion of the appeal, the term "accommodate" translated by the patent court as "accommodate" and in the patent specification as "bring in", "insert" (patent claim 1) and "fit in" (patent claim 21) does not necessarily presuppose that one or more data fields of the second series are completely filled.

22      aa)      As the appeal does not disregard in the first place, the wording of the claims, even in the relevant version of the language of the proceedings, does not give a clear indication of the meaning of that term in the context of the patent in dispute.

23      bb)      In order to achieve the objective sought by the patent in dispute, namely to transfer data as efficiently as possible, a complete filling of data fields is not mandatory and not suitable in every situation.

24      The description of the patent in suit describes as object of the invention an optimal use of the data fields of the second data series. As a decisive means of achieving this objective, it emphasises the aforementioned channel-specific compression and accommodation of the data (para. 7, 11), as provided for by features M4.1 and M4.2 and feature group D6.

25      Although the complete filling of the data fields can help to further increase efficiency in certain situations. Unlike the other two measures, however, it is neither described as indispensable nor as beneficial in every situation. Rather,

it is stated that, in order to avoid delays, it could be advantageous to fill at least individual data fields only partially and instead send the individual data packets at certain times, after a certain period of time has elapsed (para. 28) or after complete processing of a data packet of the first series (para. 58). The first two forms are expressly protected by claims 18 and 20.

26        cc)    Neither the patent claims nor the description indicate that these special arrangements only concern individual data packets and that there must always be at least one completely filled data field in addition.

27        The reference in the patent specification to the European patent application 559 593 (NB3) does not change this, as it is only used as evidence that methods according to the generic term of claim 1 were already known in the prior art.

28        According to the description, the first data series may consist of a single data packet (para. 16). Depending on the size of the data packets of the second series and the compression method used - the design of which is left to the expert - this may mean that the second series also comprises only one data packet and its data field is not completely filled in.

29        dd)    Nothing else applies to the device according to claim 21.

30        The description describes a device which can operate in three different modes of operation, the first and third of which basically provide for complete filling of the data fields of the second series and only the second of which has the object of sending the first series after each processing of a data packet (para. 56-59). It cannot be inferred from these explanations, which in any case only refer to an embodiment that the device must necessarily

be suitable for all three modes of operation. Claim 21 does not contain any specification of one of these modes of operation either. Accordingly, the protected subject matter also includes devices which have only the second mode of operation or a comparable mode.

31        II.        The Patent Court has, in so far as relevant to the appeal proceedings, essentially reasoned its decision as follows:

32        The action is admissible only in so far as it concerns claim 21. In view of the expiry of the property right, the admissibility of the action for annulment presupposes a particular need for legal protection. In order for the infringement action to be based on claim 21 only, the need for legal protection exists only to that extent.

33        Whether the subject matter of claim 21 is inadmissibly extended compared to the original application documents is open to question. In any case, it was not patentable because it was fully disclosed in the international application WO 92/20176 (K5). The citation relates to communication networks in which different local area networks (LANs) are connected by so-called "interconnect nodes". The exchange of data from a plurality of sources in one local network to a plurality of sinks in another local network is mixed ("multiplexed") by the interconnect nodes, with the data being transmitted in a frame structure. The "bridge" of node 16 prepares the data frames received from sources in the first local network, which each have a header and a data field and form a first series of data packets, for transmission via link A to node 18 of the second local network. A device in node 16 would compress the data for this purpose. Thus the features D1, D2 and D4 are revealed. Since one of the two compression options provides for the use of a specific compression dictionary for each link described by a source-drain pair, feature D3 is also disclosed. As output, node 16 provides the second series

("frame multiplexed data frame"), which contains data packets with header and data field. Each of these data packets contains only the data of one data packet of the first series and thus of one channel, because each data packet of the first series belongs to exactly one connection (source-drain pair) and is individually converted into exactly one packet of the second series and compressed in the process. Therefore the features D5.1, D5.2, D6.1 and D6.2 are also revealed.

34    The subject matter of claim 20 (now renumbered) in accordance with alternative claim 1 was covered by the content of the application. *Separate buffer means* are disclosed which could be formed as memory areas in a memory. Buffering of compressed data per channel is disclosed of origin not only in connection with the complete filling of the data fields of the second series.

35    However, the subject matter of claim 20 under alternative claim 1 is not new to K5. Buffering means must be available there in order to insert the data fields in compressed form in the "frame multiplexed data stream", i.e. in the second series. The data packets of the first series would be compressed 1-to-1 channel by channel. First the current data packet ("current frame") is compressed with the channel-specific vocabulary V1, then the next data packet with the channel-specific vocabulary V2, and so on. The expert is aware that a memory area must be available for the "current frame". The compressed data would then be inserted into the data stream mentioned.

36    III.  That assessment stands up to review on appeal as regards the granted version of claim 21, but not as regards the version of that claim defended in the third alternative claim and the dismissal of the further action as inadmissible.

37        1.      The follow-up appeal filed in due form and time is admissible in its entirety. Contrary to the defendant's view, there is no lack of a statement of reasons with regard to claims 2 to 20 and 22 to 26.

38        Admittedly, the plaintiff has expressly explained why it considers that there is an interest in legal protection only in respect of claim 1. However, it is clear from the content of its observations that that reasoning also applies to all the other claims. This satisfies the requirements of § 115 (3) and § 112 (3) No. 2 Patent Law.

39        2.      Contrary to the opinion of the Patent Court, the action remains fully admissible despite the lapse of the patent in dispute. In view of the infringement litigation pending between the parties, there is a sufficiently concrete concern that the defendant will pursue the plaintiff also on the basis of patent claims other than claim 21.

40        a)      The question of whether there is a legitimate interest in bringing proceedings must not be judged by too strict a standard.

41        aa)     If an action for annulment is intended to serve the preventive defence of claims, it is not decisive whether these have already been asserted or even announced. Rather, there is sufficient reason to take legal action if the plaintiff has reason to worry that he may still be exposed to claims for past actions even after the term of protection has expired. In such cases, an interest in legal protection may only be denied if such a claim is seriously out of the question (BGH, decision of 14 February 1995 - X ZB 19/94, GRUR 1995, 342 et seq. - Tafelförmige Elemente; decision of 13 July 2020 - X ZR 90/18, juris para. 28 - Signal transmission system).

42        bb)     In order to assess whether those conditions are met, the conduct of the proprietor of the patent until the expiry of the property right is also relevant.

43       Where the proprietor of a patent has already expressed, by means of an infringement action, his willingness to enforce what he considers to be his rights in respect of infringement of the patent, any interest in bringing an action for annulment which has already been brought does not automatically cease to exist because the proprietor withdraws the infringement action. Thus, the Federal Supreme Court has also affirmed an interest in legal protection in the event that the patent proprietor withdraws an infringement action already filed but refuses to waive any claims from the patent in dispute (BGH, ruling of 9 September 2010 - Xa ZR 14/10, GRUR 2010, 1084 marginal no. 10 - wind energy converters).

44       cc)    In accordance with these principles, an infringement action already brought will in principle establish an interest in legal protection in respect of all the claims of the patent, even if it is based only on individual patent claims.

45       As far as sub-claims are concerned, it usually depends solely on considerations of expediency whether an infringement action is based exclusively on the main claim or, in the alternative, on sub-claims. A party who is sued for infringement of the patent on the basis of the main claim therefore has reason to worry that the request will be based on sub-claims if the main claim proves to be invalid. In this situation, it is usually in line with the dictates of procedural economy to decide on an already pending nullity action in respect of all patent claims in order to allow for a final clarification of the legal situation. In this situation, an interest in legal protection with regard to individual sub-claims can at best be denied if it is obvious that the challenged embodiment does not realise a feature provided for therein either verbatim or by equivalent means.

46       As far as secondary claims are concerned, nothing else applies in any case if they are so largely identical in content that the realisation of the

features of one claim typically leads to the realisation of the features of the other claim.

47  b)  In the event of a dispute, there is thereafter an interest in legal protection in respect of all patent claims.

48  aa)  Patent claim 1 largely corresponds in substance to the subordinate patent claim 21.

49  A device having the features provided for in claim 21 is typically suitable for carrying out the method protected by claim 1. This gives rise to the concern that the defendant will also base claims for infringement of the patent in dispute on this patent claim.

50  bb)  With regard to the other patent claims based on one of the two claims mentioned above, a sufficient interest in legal protection arises simply from the fact that it cannot be excluded that the contested embodiment has the additional features provided for therein.

51  cc)  The defendant has not made a waiver which could have eliminated the interest in legal protection in the given situation.

52  In that context, the fact that the defendant did not invite the plaintiff to make such a waiver by the end of the oral procedure before the Patent Court is irrelevant. In the situation described above, it was incumbent on the defendant to issue a waiver without being asked to do so in order to eliminate the interest in bringing proceedings.

53  3.  The patent in dispute, as granted, has no legal validity.

54          a) As the Patent Court has correctly decided, the international application WO 92/20176 (K5) discloses all features of claim 21 as granted.

55          aa)    The citation concerns a communication network.

56          Access to the network is via *inter-connect nodes,* which each connect a number of data sources and data destinations to the network. Some of the data sources and data destinations can be arranged in local networks (LANs), which in turn are connected to the communication network via a connection node (K5 p. 1, paragraph 2 f.). Figure 1 of K5 shown below shows an example of such a communication network, to which three local networks LAN1, LAN2 and LAN3 are connected via connection nodes 16, 18 and 70, each of which has several subscribers (T1, S2, S3, T2, T3) as potential data sources or data destinations.

**FIG.1**
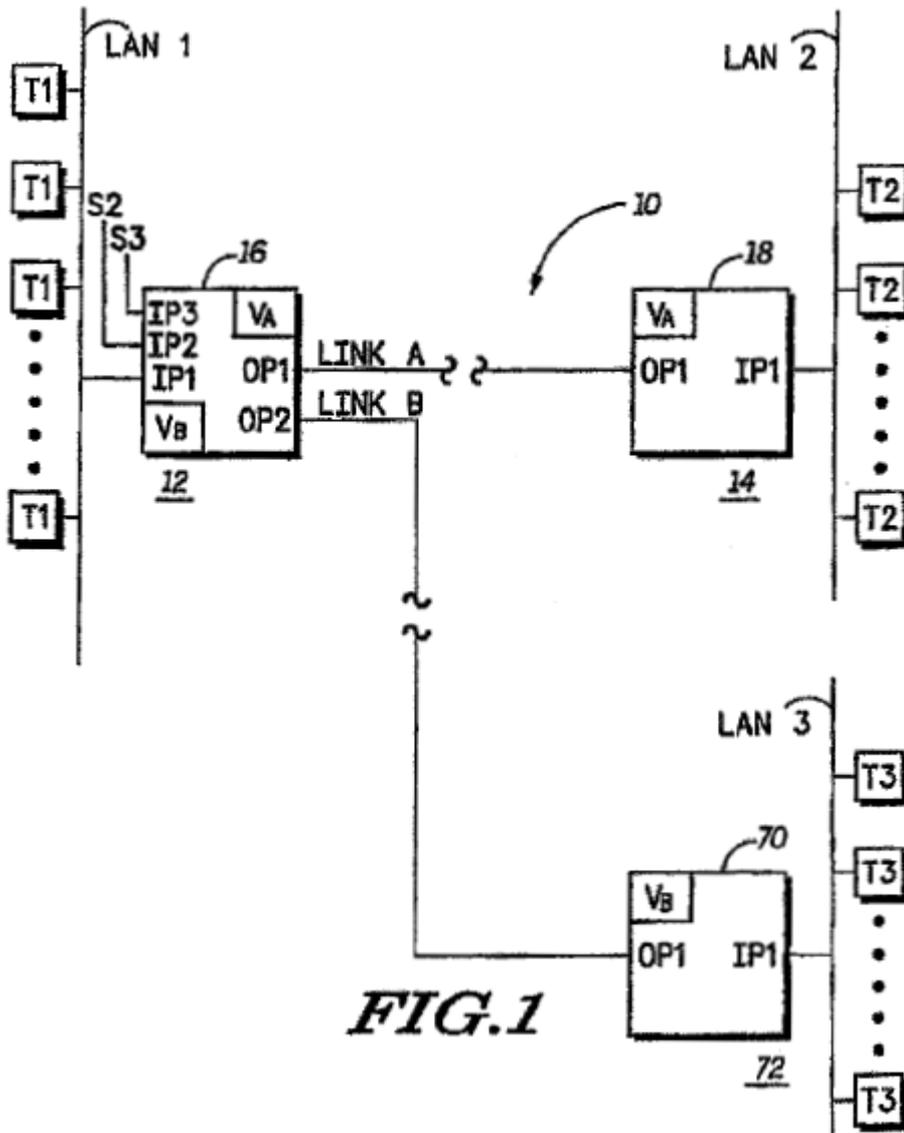
57       The data exchange between one of the sources in LAN1 and one of the destinations T2 in LAN2 via link A can be in the form of *data frames.* As shown in Fig. 2 below, these contain a header containing the *source address (source address S)* 20 and the *destination address (destination address D)* 22, and a *data information portion* 24 for (usable) data (cf. K5, p. 7/8).
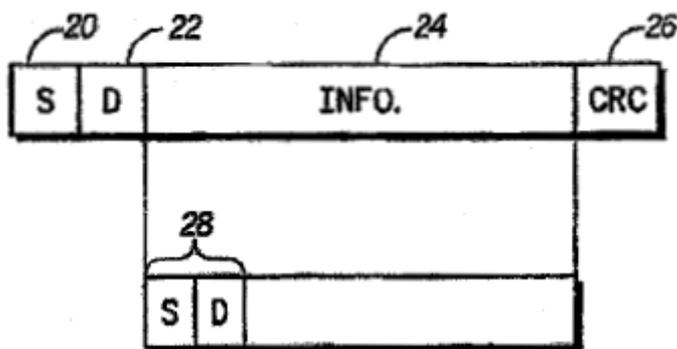
**FIG.2**

58       According to the information in K5, in order to exploit the features of the data traffic of the respective source/destination pair, a compression method is advantageous in which the data is compressed with a specific compression dictionary, frame by frame and thus separately for each source (K5, p. 3, para. 2 f.). For this purpose, K5 suggests a memory management system for the compression dictionaries (K5 p. 4, para. 2 to p. 5, p.14 para. 2 to 16 para. 1). Connection node 16 contains a data compression device which has a memory $V_A$ for current compression dictionaries and compresses the current data frame individually For this purpose, the source and destination addresses of the respective current data frame are monitored for the data traffic between connection nodes 16 and 18 in order to select the compression dictionary suitable for this pairing via a *rating table index* code *(RTO code)* determined for this source-target pairing (K5 p. 10, para. 2 to p. 11, para. 2). If no dictionary is stored for the current pairing, a dictionary is created based on the current data frame (K5 p. 15, para. 1). With the appropriate compression dictionary, the current data frame is compressed individually.

59       The compressed data frames begin with the specification of the source and destination addresses (K5, p. 14, para. 2). They are transmitted from connection node 16 to connection node 18 in a so-called frame multiplex data stream (K5, p. 8, para. 2, p. 14, para. 2). Such a data stream is illustrated in the

following Fig. 5, with details of the compression dictionaries V1 to V3 used for the individual frames F1 to F7 and the source address-destination address pairs SID as examples. In this example, new compression dictionaries were created for frames F4 and F7 in the absence of suitable existing ones and the memory space of the original dictionary V1 and V2 was overwritten for this purpose (cf. K5, p. 15, para. 1 and para. 2).
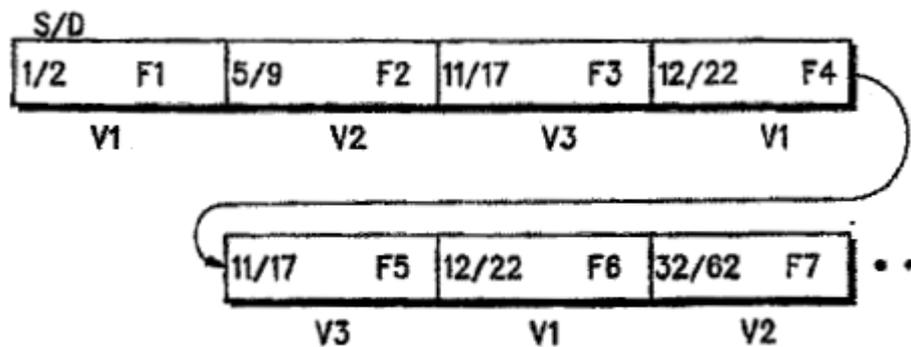


FIG.5

60        bb)   As the Patent Court has correctly decided and the defendant does not doubt, the features D1, D2, D4, D5 and D5.1 are thus disclosed.

61        cc)   In so far as the defendant denies a disclosure of features D5.2, D6.1 and D6.2, this is based on the premise that a sophisticated device must be suitable to enable complete or optimum filling of the data fields of the second series. This premise is not correct, as already explained in connection with the interpretation of the patent in dispute.

62        dd)   Contrary to the defendant's view, K5 also reveals feature D3.

63  As explained above, in K5 the pairing of source and destination address of the current frame is used in order to use a suitable compression dictionary (K5, p. 10, para. 2 to p. 11, para. 2, p. 14 ff.). This immediately and unambiguously reveals an identification means for recognising the channel affiliation of the received data packets.

64  b) For the above reasons, the subject matter of claim 1 also lacks novelty.

65  c) Individual subclaims are not defended by the main claim.

66  4. The defence of the contested patent in the versions of auxiliary requests 1 and 2 remains unsuccessful.

67  a) According to both versions, claim 21 should be supplemented  by the following feature:

68

| D6.3 | The number of data packets of the first series is different to the number of data packets of the second series. | Die Anzahl der Datenpakete der ersten Folge ist von der Anzahl der Datenpakete der zweiten Folge verschieden. |
|------|------|------|

69  In addition, the following feature should be included in claim 21 after auxiliary request 2:

| D6.4 | Buffer means (161; 261) are provided for buffering, per channel (A, B ...) compressed data to be accommodated in a data field of the second series (20) | Es sind Puffermittel (161; 261) vorgesehen zum Puffern je Kanal von komprimierten Daten, die in einem Datenfeld der zweiten Folge (20) unterzubringen sind |
|------|------|------|

71          b)     The alternative defence of the patent in dispute in both of the above-mentioned versions is not relevant (§ 116(2) PatG), since the defendant had already had occasion in the first instance to defend the patent in dispute in this way.

72          aa)    A reason for an at least alternatively limited defence may arise from the fact that the patent court has stated in its notice issued under Sec. 83 (1) Patent Law that in its preliminary view the subject matter of the patent in dispute should not be based on an inventive step (BGH, judgement of 15 December 2015 - X ZR 111/13, GRUR 2016, 365 - Telekommunikationsverbindung; judgement of 15 February 2018 - X ZR 35/16 marginal no., 52).

73          bb)    In the reference under Sec. 83 (1) PatG, the Patent Court took the view that the feature "accomodate data in a data field" contained in claims 1 and 21 was to be understood as meaning that a data field of the second series could only be partially (i.e. "unadapted") filled even after data from the first series had been included. Accordingly, it considered the subject matter of claims 1 and 21 to be not new in relation to K5 and K6 and, in examining features M4.2 and D6.2, did not consider whether it was apparent in the citations that the data fields of the second series were completely filled after the inclusion of data from the first series. The defendant was thus already obliged at first instance to defend the patent in dispute in the two versions now claimed if it considered that they were subject to a different assessment.

74          5.     The defence of patent claim 21 according to auxiliary request 3 is admissible and is also successful on the merits.

75          a)     According to auxiliary request 3, the granted version of claim 21 is supplemented by the aforementioned feature D6.4.

76       b)    The defence of the patent in dispute under auxiliary request 3 is admissible under Sec. 116 (2) Patent Law.

77       aa)   According to the case law of the Senate, the defence of a patent in amended form, which is asserted for the first time in the appellate instance, is generally admissible under Sec. 116 (2) PatG if the new request differs from a request already filed in the first instance only in that some of the features added to the granted version have been deleted (BGH, judgement of 20 March 2014 - X ZR 128/12 marginal no. 52).

78       Such an amendment fulfils the requirements of Sec. 116 (2) No. 2 Patent Law, because the request can be assessed, despite the deletion of individual features, on the basis of the facts which were already subject to a decision at first instance and which therefore, pursuant to Sec. 117 Patent Law and Sec. 529 (1) No. 1 ZPO, must also be taken as the basis for the decision on appeal. As a rule, it is also relevant within the meaning of § 116 (2) No. 1 PatG because it allows the patent proprietor to make fine corrections, if necessary, without significantly increasing the effort required for the assessment by the court.

79       bb)   In the event of a dispute, the defence of the patent in dispute pursuant to auxiliary request 3 shall be relevant thereafter.

80       The version of claim 21 defended in the third alternative claim differs from the version defended in the first alternative claim 1, which corresponds to the granted claim 22, only in that the expression "separate buffer means" has been replaced by "buffer means". Even if the defended subject matter would thus be more far-reaching in comparison with the first-instance auxiliary request, it can be assessed on the basis of the facts which have to be taken into account anyway under § 117 PatG. Against this background, the request must also be assessed as relevant.

81          c)      Whether the deletion of the word "separate" will lead to a change of substance at all is open to question. Even in the now defended version, buffering means in the sense of feature D6.4 of the granted patent claim 22 and the identical additional feature according to the first instance auxiliary request 1 must in any case make it possible to store data from several channels separately at the same time before initiating the dispatch process.

82          aa)     This is already indicated by the wording of the feature which provides buffering means for buffering per channel.

83          bb)     This understanding is consistent with the description.

84          According to the description, the buffers allow a data packet belonging to a certain channel not to be sent simply because the next packet to be processed belongs to another channel. With the help of the buffers, the compressed data can be collected separately for each channel until the packets of the second series can be used in an optimal way (para. 13) or as efficiently as possible (para. 41). One way to achieve this is to store the compressed data for each channel until the data field of the packet of the second series is completely filled (para. 13).

85          As already explained, although the complete filling of a data field of the second series is not mandatory, neither in the description nor in claims 1 and 21. However, the simultaneous and separate retention of compressed data from several channels is also required for designs in which the data fields of the second series are not completely filled. If, for example, the transmission depends on the occurrence of a certain point in time or the expiry of a certain period of time, it is possible, in the same way as in the case of a complete filling, that data from several channels must be processed until this condition is met.

Accordingly, the description also mentions the use of buffering agents in such designs (para 18; para 28, lines 29-47, para 36, 37, 39, 57, 59).

86       This function is only unnecessary in the already mentioned operating mode, in which a data packet of the second series is always sent when a packet of the first series has been completely processed. For this constellation, however, the description does not mention the use of buffers (cf. para. 28, lines 47-58, para. 58). At one point it is even stated that the data volume per data packet can be reduced even without buffers, only the number of packets remains basically unchanged (para. 37, col. 8, line 55 to col. 9, line 7). It also follows from this that not every storage device which enables one of the operating modes described in the description can be regarded as a buffer means in the sense of the patent in dispute, but only such means which enable the simultaneous storage of data from several channels.

87       d)     The subject matter of claim 21 defended by auxiliary request 3 does not go beyond the content of the original application.

88       Buffering means according to feature D6.4 are disclosed in claim 26 of the application. Their use is not limited to a complete filling of the data fields of the second series. This is - not unlike under the patent in dispute (para. 13) - a possible but not mandatory purpose of buffering (cf. K1a, p. 4, lines 5-12).

89       e)     The object in question is new.

90       aa)    In K5 no channel-by-channel buffering of compressed data is revealed.

91       As mentioned above, K5 provides memory management for compression dictionaries, which are used to compress the data frame by frame. To do this, as shown in Fig. 5 and explained in the description, the current frame is compressed using a compression dictionary which exists in the memory or which has been

newly created, and assigned to a memory section according to its source and destination address (K5, p. 14, para. 2 to p. 15, para. 1).

92          Thus, as the Patent Court has found, there may be a memory area for the current frame. However, according to the above explanations on the interpretation of patent claim 21, such an intermediate storage is not sufficient for the realisation of feature D6.4. Rather, buffering means would have to be available which at the same time make it possible to store data from several channels separately from each other before they are released for transmission. Such buffer means are not disclosed in K5, since the data frames are compressed and stored there one after the other and thus not simultaneously.

93          bb)     Contrary to the preliminary view taken by the Patent Court in its reference under § 83 (1) PatG, the subject matter of patent claim 21 defended by auxiliary request 3 is also not anticipated by the international application WO 92/21188 (K6).

94          (1)     K6 reveals a method and a device for improved channel utilisation in a communication system for data and voice, in particular in Integrated Service Digital Networks (ISDN, K6, p. 1, lines 1-6, p. 7, lines 6-9).

95          In order to achieve this goal, K6 proposes, among other things, a gateway that combines data packets to be sent to a specific destination into *trains*, compresses the trains if necessary and sends them to the destination. Each train has its own *header,* which contains all the packaging and compression information required to restore the original data packets at the receiving end (K6, p. 9, lines 3-12). The data packets also have a header and a data area (K6, Fig. 21a with p. 22, lines 17-20). *Packet sequences* are formed, i.e. sequences of data packets which have the same source-destination pair and for which it is ensured that their sequence is maintained at the receiving end (K6, p. 20, lines 13-25).

Such packet sequences are assigned to freight destinations, whereby several packet sequences are assigned to the same freight destination. A freight destination is divided into several trains, the size of which is generally not limited and which contain an integer number of packets (K6, p. 21, lines 2-13 with Fig. 22).

96     Each destination d is assigned a destination queue Q(d) at the gateway on the send side (K6, p. 9, lines 3-6), which consists of a pool of buffers. If there is still space in the buffer pool for the destination d in a buffer, an incoming packet for this destination is placed there. When the buffer is full, it is closed and sealed into a train. If there is no open buffer, a new buffer is created in the buffer pool and a new train is started. If the destination d is unknown, a new buffer pool is started for a new train (K6, p. 25, line 18 to p. 26, line 16).

97     A train to be sent is compressed and then sent to its destination in a data *frame* via the ISDN network (K6, p. 21, lines 14-17; p. 9, lines 3-6). The data frame has a header field and a data field containing the compressed train (K6, p. 21, lines 17-20; p. 22, line 10-13; p. 22, lines 20-24 with Fig. 21b).

98     (2)  Thus, there is no disclosure of features D6.1 and D6.2.

99     (aa)  For trains that are compressed, it is not ensured that they only contain data packets from one channel between two terminals. The destinations according to which data packets are combined to form trains are destinations at gateway level (K6, p. 25, lines 10-12), not the destination addresses behind the gateway.

100     (bb)  There is no other way to ensure that the data packets assembled into a train have the same source-destination pair. All data packets in a packet sequence have the same source-destination pair. They therefore belong to the same communication partners and thus to the same channel within the meaning

of the patent in dispute. However, K6 lacks the revelation that only data packets from a packet sequence or data packets which are otherwise guaranteed to have the same source-destination pair can be accommodated in one go. Rather, the assignment of a pending data packet to a buffer, and thus to a train, is determined only by whether a buffer pool already exists for the destination at gateway level and whether there is a buffer there which is not yet completely filled (K6, p. 25, lines 33 to p. 26, lines 16).

101        (3)    Furthermore, there is a lack of means for channel-by-channel buffering of compressed data as defined in feature D6.4.

102        It remains to be seen whether this feature is not disclosed in K6 for the simple reason that, in the procedure described there, compression only occurs when a buffer has become full and its contents are sent. In any case, compressed data is not buffered channel by channel because the packet sequences compiled for the purpose of compression can, as mentioned, originate from different channels.

103        f)    The subject matter of claim 21 is also not fully disclosed in US patent 5 179 555 (Nkl11).

104        aa)    Nkl11 concerns a device for bridging and routing data between one or more local area networks (LAN) and a wide area network (WAN).

105        The participants (nodes 14) of one LAN can communicate with participants of another LAN via the WAN. A bridge/router device is connected between each LAN and the WAN (Nkl11, col. 1, lines 33-45). In order to reduce the latency time before data is transmitted, the data packets to be compressed for transmission, the format of which corresponds to a previously known format for LAN, are divided into smaller data frames if necessary, each of which is provided with a header.

These data frames are compressed in the bridge/router device and transmitted via the WAN to the subscriber in the other LAN (Nkl11, col. 2, lines 43-45; col. 4, lines 56-68; col. 5, line 63 to col. 7, line 29).

106        bb)    Thus feature D3 is not immediately and unambiguously obvious.

107        Although the bridge/router device may necessarily identify the destination address in order to transmit the data frames. In addition, a data packet to be transmitted will remain in the memory until the receiving side confirms reception (Nkl11, col. 3, lines 49-53). However, there is no clear and immediate need to identify the source address from either one.

108        cc)    Furthermore, there is no disclosure of features D6.1.

109        It is true that each data packet is inevitably processed channel-specifically because it belongs to a specific channel and is processed individually. In particular, each data packet is therefore split into one or more data frames for transmission, if necessary. However, if data from the data packet is buffered for this purpose, this is not sufficient for buffering in the sense of feature D6.1. Nor is the buffering of the data frames before their transmission sufficient in this respect.

110        As far as Nkl11 states that compressed data would be stored in a pipeline (Nkl11, col. 4, lines 62-68), it cannot be clearly and immediately inferred that the storage is done separately for each channel.

111        g)    It is neither claimed nor otherwise evident that the expert had reason to consider channel-by-channel buffering of compressed data based on K5, K6 or Nkl11.

112        This also applies with regard to CCITT Recommendation Q.922 "Digital Subscriber Signalling System No. 1 (DSS 1) Data Link Layer" (K12), by which the plaintiff alone wishes to demonstrate the obviousness of feature D5.2 in the event

that, according to the defendant's understanding, the term "accommodating" is to be interpreted narrowly in the sense of filling as completely as possible. However, since the Senate understands the term - as explained - in a broader sense, further explanations are dispensable with regard to K12.

113        6.      With claim 21 in the version of auxiliary request 3, claims 22 to 26, which are referred back to this claim, are also valid.

114        7.      On the other hand, the subject matter of patent claim 1, which is unchanged from the granted version after all auxiliary requests, as well as the patent claims 2 to 20, which are based on it and are not separately defended, are not legally valid for the reasons mentioned above.

115      IV.      The decision on costs is based on Sec. 121 (2), second sentence,
Patent Law in conjunction with § Sec. 92 (1), Sec. 101 (2), Sec. 100 (2) and
Sec. 269 (3), second sentence, ZPO.


Bacher                          Grabinski                          Marx


Rombach                          Linder



Previous instance:

Federal Patent Court, decision of 15 November 2017 - 5 Ni 59/16 (EP) -