



FEDERAL PATENT COURT

IN THE NAME OF THE PEOPLE

DECISION

Pronounced on
March 27, 2007
May
Judicial Chief Secretary
As Clerk of the Court

1 Ni 5/06 (EU)
(File number)

In the Patent Invalidation Matter

Europäische Zentralbank [European Central Bank], Kaiserstrasse 29, 60311 Frankfurt, officially represented by its president Jean-Claude Trichet, ibidem,

The Plaintiff,

- Process attorneys: W. von Meiborn and Colleagues, attorneys at law (joint practice Bird & Bird), Karl-Theodor-Strasse 6, 40213 Düsseldorf –

v e r s u s

Document Security Systems Inc., 28 Main Street East, Suite 1525, Rochester, NY 15614, United States of America, officially represented by its Chief Executive Officer, Patrick White, ibidem,

The Defendant,

- Process attorneys: Chem. Dr. E. Becker and Colleagues, patent attorneys and attorneys at law (joint practice Becker, Kurig, Straus), Bavariastrasse 7, 80336 Munich -

re. European Patent 0 455 750
(DE 690 33 362)

the first Senate (Nullity Senate) of the Federal Patent Court based on the hearing of March 27, 2007, with the collaboration of president Lutz as well as judge Dr. rer. Nat. Frowein, certified physician, Rauch, Pontzen, certified engineer, and Sandkämper, certified engineer

have adjudicated the following:

1. The action will be dismissed.
2. The Plaintiff will bear the costs of the action.
3. The decision will be enforceable for the time being with respect to the expense matter regarding the security deposit of 120 % of the amount to be enforced.

F a c t s

The defendant is the owner of European patent 0 455 750 issued in the English language for Germany among others described as "Method of making a nonreplicable Document" that was filed on January 16, 1990 as a PCT application while claiming priority of a previous US application dated January 18, 1989, and which was published on November 24, 1999. The patent's domestic part, against which no objection had been filed, is recorded under file no. 690 33 362.

According to patent specification EP 0 455 750 B 1 (contested patent specification), the patent comprises four patent claims.

The language of patent claim 1 is as follows in the applicable English version:

A method of making a document that is not faithfully replicable by scanning-type copying devices, the document using a visible original image (10, 40) comprising art, pictures and/or image forms made of curvilinear lines, dots and/or swirls, the method comprising the steps of

determining the scanning pitch distance (p) and width of the scanning lines (36) of the copying devices;

producing a grid pattern of parallel lines (32) having a pitch distance (d) minutely more or less than the scanning pitch distance (p), the difference between the pitch distance (d) of the parallel lines and the scanning pitch distance (p) being within a range from about one-half the width of the scanning lines to about one-half the scanning pitch distance (p); and

overlaying the grid pattern on the original image to produce on the document a printed image which comprises the original image having a superimposed transmitted or obstructed print pattern conforming to the grid pattern in which the print pattern normally is not discernible by the naked eye, such that the original image and the printed image appear to the naked eye to be generally the same, the print pattern causing visibly discernable interference (e.g. moire) patterns and/or false tones, colors or omissions to be produced in the printed image in copies of the document made by the copying devices.

The German translation received for patent claim 1 in the patent in suit is:

Verfahren zur Herstellung eines Dokuments, das durch Kopier Vorrichtungen der Abtastbauare nicht getreu reproduzierbar ist, wobei das Dokument ein sichtbares Original-

bild (10, 40) verwendet, welches Kunstwerke, Bilder und/oder Bildformen aufweist, die aus gekrümmten Linien, Punkten und/oder Wirbeln gebildet sind, wobei das Verfahren die folgenden Schritte vorsieht:

Bestimmung des Abtasteilungsabstandes p und der Breite der Abtastlinien (36) der Kopier Vorrichtungen;

Erzeugung eines Gittermusters aus parallelen Linien (32) mit einem Teilungsabstand d der geringfügig größer oder kleiner ist als der Abtast-Teilungsabstand p , wobei die Differenz zwischen dem Teilungsabstand d der parallelen Linien und dem Abtastungsteilungsabstand p innerhalb eines Bereichs von ungefähr der Hälfte der Breite der Abtastlinien bis zu ungefähr der Hälfte des Abtastteilungsabstandes p liegt; und

Überlagerung des Gittermusters auf das Originalbild zur Erzeugung eines gedruckten Bildes auf dem Dokument, wobei das gedruckte Bild das Originalbild aufweist mit einem darüberliegenden übertragenen oder abgedeckten Druckmuster entsprechend dem Gittermuster und indem das Druckmuster normalerweise durch das nackte Auge nicht unterscheidbar ist derart, dass das Originalbild und das gedruckte Bild dem nackten Auge als im allgemeinen gleich erscheinen, wobei das Druckmuster eine sichtbare unterscheidbare Interferenz (z.B. Moire) Muster und/oder falsche Töne, Färbungen oder Weglassungen in dem zu erzeugenden gedruckten Bild in Kopien des Dokuments hergestellt durch die Kopier Vorrichtungen verursacht.

Claims 2 through 4 refer directly back to claim 1.

The Plaintiff argues that the claimed doctrine of the patent in suit cannot be inferred from the documents that were originally filed. The original disclosure for overlaying a grid pattern on an original image to produce an image on the document, whereby the printed image shows the original image

including a superimposed transmitted or obstructed printed pattern that corresponds to the grid pattern and whereby the printed pattern can generally not be distinguished by the naked eye, is missing. In addition, The Plaintiff asserts that the method according to claim 1 is not a new one: A Swiss bank note from 1976 was produced using a method comprising the characteristics of claim 1, as results from the copies submitted according to attachments K3 ff. Furthermore, additional bank notes, particularly the British 10 Pound note of 1984 ff., see attachments K17 and K18, were produced in the same manner before the priority date of the patent in suit using a method comprising the characteristics of claim 1.

In addition thereto, The Plaintiff is basing its complaint on the following printed publications:

K4 GB 1 138 011

K5 DE 36 02 563 C1

K6 W. Stupp, "Moiré Erscheinungen in der Reprotechnik, Entstehung – Fehlerscheinung –
Nutzanwendung " [Moire phenomena in Reprographic Techniques, Creating – Error Aspects –
Application], *Moderne Fototechnik [Modern Photo Technology]*, 5/79

K7 US 4 582 346

K8 A. Steinbach et al, "Moiré patterns in scanned halftone pictures", *J. Opt. Soc. Am.*, vol. 72, no. 9, September 1982

It argues that the method according to claim 1 of the patent in suit was not based on inventive work as compared to the prior state of the art according to documents K4 ff. The subject matter of the sub-claims was anticipated or suggested by the prior state of the art, or of the technical type.

Citations K4, K5 and K7 are listed on the cover sheet of the contested patent in addition to sixteen additional specifications.

The Plaintiff requests

that European patent 0 455 750 be declared as invalid to the fullest extent for the sovereign territory of the Federal Republic of Germany.

The Defendant, who answered the complaint in due time, requests

that the action be dismissed.

He argues that an asserted reason for nullity of the lacking patentability of claim 1 of the patent in suit does not exist. An original disclosure preexists.

Due to the wording of the sub-claims, reference is made to the patent specification to which there is an objection or to its translation DE 690 33 362 T2 (K2), and the files for additional details.

Reasons for the Decision

The suit, which was filed correctly, and in which the reason for nullity of the objectionable extension according to art. II, § 6, Para. 1, no. 3, International Patent Agreements Act [IntPatÜG], and the lacking patentability (art. II, § 6, Para. 1, no. 1, International Patent Agreements Act, in connection with art. 52, Para. 1, art. 56, Agreement for Granting European Patents [EPÜ]) was asserted, is not substantiated.

I.

1. The patent which is the subject of the suit concerns the production of a document which cannot be faithfully replicated by means of scanning-type copying devices. The claimed method comprises procedural steps that serve to identify a copy of the document as a counterfeit which was produced using a scanning-type copying device. These procedural steps exploit physical effects, and particularly optical effects.

Claim 1 of the patent in suit shows the following characteristics according to an outline submitted by the Plaintiff (attachment K9) on whose basis the patent's owner made representations during the proceedings and to which reference will be made below:

A Method for producing a document that cannot be faithfully reproduced using scanning-type copying devices,

B whereby the document uses a visible original image (10, 40) comprising art, pictures and/or image forms made of curvilinear lines, dots and/or swirls,

whereby the method comprises the steps of:

C determining the scanning pitch distance (p) and width of the scanning lines (36) of the copying devices;

D producing a grid pattern of parallel lines (32) having a pitch distance (d) minutely more or less than the scanning pitch distance (p),

E whereby the difference between the pitch distance (d) of the parallel lines and the scanning pitch distance (p) ranges from approx. one-half the width of the scanning lines to approx. one-half the scanning pitch distance (p); and

- F overlaying the grid pattern on the original image to produce upon the document a printed image, which consists of the original image having a superimposed transmitted or obstructed print pattern conforming to the grid pattern, and
- G in which the print pattern is normally not discernible – e.g. not recognizable or not noticeable - to the naked eye, such that the original image and the printed image generally appear to be the same to the naked eye,
- H whereby the print pattern causes visibly discernible interference (e.g. moiré) patterns and/or false tones, colors or omissions in the printed image to be produced in copies of the document made by the copying devices.

2. In the present case, a competent expert is deemed to be a certified physicist specialized in optics who has long-standing experience in the development of forgery-proof documents, and who deals with incorporating security features, particularly of the optical and graphic types, into bank notes, which have been listed first in paragraph [0002] of the challenged patent's description, as well as other examples of such document types, or who works with similarly sophisticated print products. He will be familiar with existing reprographic and copying techniques and aware of the characteristics of the devices used in this field. This expert will determine the criteria for certain details of graphic elements regarding the visual representation of a document in close cooperation with a mechanical engineer who holds an academic degree, specializes in print technology, and has a vast knowledge of suitable print methods and devices to produce or print documents that are particularly forgery-proof, which a graphic designer must take into account when designing the document and which he might have to integrate into his graphic representation.

3. The listed expert understands the patent in suit as follows:

The method according to claim 1 refers to the production of a document using a print method, see characteristics F, G, and H. Copies produced from this type of document by means of scanning-type copying devices should show clearly recognizable errors (see characteristic H).

According to characteristic B, the existence of a visible original image will be assumed to implement the claimed method. This image must show image forms made of curvilinear lines, dots and/or swirls.

Characteristic C prescribes the determined scanning pitch distance (p) and the width of the scanning lines of potential scanning-type copying devices. Such types of copying devices will successively scan the document line by line in the area of a scan line. The – parallel – scan lines are not joined without gaps but are spaced apart. The scanning pitch distance p or the line height is larger than the scan line width (see the diagram representing figures 2 of the contested patent including their respective descriptions). Accordingly, a gap exists between two successive scan lines; its size equals the difference between the scan pitch distance p and the scan line width. Thus, for each line, only the information – e.g. brightness and/or color value information – which stems from the original image will be accepted and transmitted to the pertinent scan line area; no information is incorporated into the gap. Therefore, data from the gaps is missing in the transmitted image.

The variables of the values of the scan pitch distance p and the scan line width which must be determined according to characteristic C substantially determine the resolution of the copying device. It must be

selected specifically for each application so that the copy includes a sufficient amount of fine details where the loss of information – essentially caused by non-integrated, untransmitted, and consequently missing information from the gaps – is as little as possible, or still tolerable.

According to characteristic D, a grid pattern consisting of parallel lines and having a scan pitch distance (“grid constant”) d is produced. When the document is printed, this is superimposed “on the original image” according to characteristic F. The image in the document that was printed according to the method renders the original image, which consists of curvilinear lines, dots and/or swirls according to characteristic B, as well as a superimposed print pattern according to a grid pattern consisting of parallel lines formed in accordance with characteristics D and F, while observing the specifications of characteristics C and E.

The curvilinear lines, dots and/or swirls according to characteristic B represent a self-contained component of the original image. They are completely independent from the superimposed grid patterns which were created according to step D and superimposed on the original image according to characteristic F. The Plaintiff uses this understanding of characteristics B, D and F, which the Plaintiff expressly confirmed during the hearing following an inquiry.

“Not discernible” in the English text must be translated as “nicht erkennbar” [not recognizable] or “nicht wahrnehmbar” [not perceptible]. The first partial characteristic of characteristic G must thus be understood in the sense that the transmitted print pattern, which corresponds to the grid pattern, cannot be seen with the naked eye.

As the second partial characteristic of characteristic G indicates, the original image and the printed image generally appear to be the same to the naked eye, e.g. the printed image is rendering the original image including virtually all its details that can be seen with the naked eye so that the naked eye will not recognize any deviations between the printed and the original image."

4. Grounds for nullity of the inadmissible extension according to article II, § 6, Para. 1, no. 3, International Patent Agreements Act, do not exist.

4.1 The (print) process for producing a document that cannot be faithfully reproduced using scanning-type copying devices has been disclosed for an expert in its original documents, including its characteristics.

PCT application WO 90/08046 – as submitted by the Plaintiff as attachment (K13) – must be consulted and examined as a whole to verify the original disclosure. Sources of disclosure consist of the claims contained within it, the description of the general part, and the specific parts and/or drawings that refer to the embodiment(s).

It must be noted in this context that the originally filed claims only represent formulation attempts which can be modified during the examination as part of the original disclosure.

Furthermore, it must be taken into account that the embodiments of the invention as represented in the figures, including their corresponding special descriptive parts, do not have to necessarily cover all details of the claims.

The parties do not dispute the disclosure of characteristics A through H of the method according to claim 1 of the patent in suit. However, the Plaintiff views characteristics F and G as originally undisclosed.

WO specification K13 discloses various methods for producing forgery-proof documents. The objective of these methods consists of the documents which were produced on the basis of these methods when copying with a scanning-type copying device, and which show significant deviations from the original, e.g. moiré patterns in the copies.

In the methods claimed in claims 1 through 12, lineations are integrated into the image parts of documents (lineations – see claims 1 through 5, 8 through 10, 12). These lineations represent grid structures or grid patterns, respectively. Use is made of the fact that copies of these documents which were created using copying devices show moiré patterns or omissions when the lines of said lineations have a certain spacing (in terms of area).

The step of superimposing a grid pattern onto an original image to produce an image on the document according to characteristic F is included in claim 13 – which an expert approached in this case would recognize. The intent of this claim is to create a document which cannot be faithfully reproduced using a copying process. Copying an original document, including its image content, with a copying device will provide an original copy of the document (replicant document) featuring a grid structure in the image (image lineations). Any additional copies created from this original copy will appear visibly untrue or falsified as omissions, distortions and moiré effects which will be visible in the image areas. An expert will understand the deliberate creation of grid structures or grid patterns as listed in the claim by means of the copying process in the original's representation as a superimposition of the grid structures or grid pattern onto the original image.

The unambiguous and adequate disclosure of characteristic F of the claimed print method according to claim 1 of the patent in suit constitutes a result for an expert when adding the original description: The paragraph on page 7 that continues on page 8 of WO specification K13 describes how the inventor discovered the phenomenon which constitutes the basis of the invention. Copying the original of a traveler's check with a scanning-type color copier resulted in an initial copy that no longer fully matched the original – which would not be immediately visible to an average observer. However, copies that are created from this copy clearly show recognizable errors (telltales). The encountered effect of

superimposing the grid structure on the original image, including missed matching with respect to the copying device, should be used as protection against counterfeiting the document, according to page 8, lines 7 through 12. This disclosure corresponds to that which was stated in claim 13 of WO specification K13. In addition, page 8, lines 21 through 24, states that documents should generally (but not always) be created by means of a printing method.

Characteristic G particularly results from page 8, lines 12 ff of WO specification K13.

Characteristics F and G, including the superimposition of a grid pattern on an original image to produce a printed image on the document described therein, have thus been disclosed to an expert by means of the qualification described in paragraph 2 above in the original description, namely as steps of a printing method for creating forgery-proof documents.

4.2 During the hearing, the Plaintiff submitted a copy of the EWHC 600 (Ch) decision [2007] by the British High Court of Justice, Chancery Division, Patents Court, dated March 26, 2007. The patent in suit is declared as invalid to the extent of its British part in this decision. Among other things, the reason for the decision states that inadmissible changes exist, and characteristic F in particular (the British decision describes it as "D1" in its listed characteristics) had not been disclosed in a clear and unequivocal manner in the original documents (see paragraphs 95 through 137).

The discerning Senate shared the opinion represented in the British decision that the terms "grid" and "overlay", in other words "Gitter" and "Überlagerung" cannot be deduced, and that the description of the figures that use the terms "grid" and "overlay" in connection with the description of figures 1, refer to a method that is the subject matter of the original claim, but not of the patent which was granted.

However, contrary to the conclusion reached in paragraph 134 of the British decision, the Senate – as demonstrated in paragraph 4.1 above – considers characteristic F or D1 to have been disclosed in the original documents, and particularly in claim 13 in connection with the description on pages 7 f.

In view of the invention's problem which was discussed in detail in the original documents and the discussion of the known prior state of the art (see K13, pages 1 through 7, Para. 1), a highly qualified expert as indicated in paragraph 2 above, recognized characteristics F and G as part of an invented printing method from the description of the characteristics of an original copy (replicant copy) and additional copies that were created based on it by means of a scanning-type copying device.

The additional version of the original claims and their focus on different production types of forgery-proof documents may not prevent the patent applicant from resorting to the descriptive parts in examination methods to convey characteristics into the claim from them.

5. The method claimed in claim 1 proves to be patentable.

5.1 The novelty required according to article 52, Para. 1, in connection with article 54, Agreement for Granting European Patents, exists.

No printing method for creating a document that cannot be faithfully reproduced using a scanning-type copying device showing characteristics F and G is known from the prior state of the art listed by the Plaintiff according to citations GB 1 138 011 (K4), DE 36 02 563 C1 (K5), the article by W. Stupp, "Moiré-Erscheinungen in der Reprotechnik ..." (K6), and US 4 582 346 (K7).

According to K4 and K5, hatchings that are visible to the naked eye are designed in the areas within the original image so that they will create moiré patterns, even during the copy process.

K6 explains the moiré phenomena in reprographic technologies particularly with respect to multi-color printing, and shows ways to prevent such moiré effects when printing. K7 discusses measures to protect against copying that are based on direction-dependent blackening effects of copying devices (copier directional slur), also see column 1, lines 38 ff. K8 includes a physical-mathematical analysis of moiré phenomena.

Furthermore, the Plaintiff was unable to convince the Senate that the bank notes that are in circulation, and which it submitted, and which according to the Plaintiff were created before the priority date of the challenged patent, were created with a printing method that included characteristic F, among other things.

The moiré patterns that appeared and became visible when overlaying a line grid with 100 lines per inch (line grid 100 dpi) onto the bank notes result, in the Senate's opinion, from the line structure of the image parts on the bank notes themselves, and also on the 10 Pound note of 1984 ff, as specifically pointed out by the Plaintiff in his submission during the hearing (see attachments K17 and K18). They address visible hatchings of essentially parallel lines in the original, which form grid patterns themselves. As an example, reference is made to the representation of the Queen's face and the hatching to the right side of the head on the 10 Pound note in attachment K17.

The same applies to the Swiss 20 Frank bank note. It is true that the Plaintiff's submission, according to which a copy of this bank note generated using a 300 dpi copier shows "clearly visible changes of the original image" (see Complaint, pages 8 ff. and attachments K3 ff.), is correct. According to the Plaintiff, the bank note or its copy according to attachment K3 includes something "that generates a major moiré effect" which is visible in attachment K3a when compared to attachment K3. However, the Senate does not deem the Plaintiff's conclusion that a method had to have been used to create the bank note, which comprises characteristics A through H of claim 1, as imperative. For instance, moiré patterns, as already listed

in connection with the printed publication K4, can appear when the original contains e.g. an arrangement of straight or curvilinear lines as a component or form of the image – in other words, image elements according to characteristic B of claim 1 that have certain pitch distances d (be it only in certain areas) that are arranged with respect to scanning pitch distance p in a specific proportion. As the Plaintiff accurately submitted, this is evidently the case with the 20 Frank bank note, where natural scientist de Saussure's face is represented by undulating lines.

No other evaluation results when taking into account the technical report by the Spanish National Bank, attachment K19, including its English translation according to attachment K19a. This report states that a grid exists which becomes visible when enlarged, and which should produce moiré patterns in copies. However, this grid, including its horizontal lines, curvilinear, inclinational lines and vertical lines (see K19a, Para. 4.1.2) of a copy of the Swiss bank note as submitted as K3, can be recognized by the naked eye as part of the original image which corresponds to characteristic B of claim 1.

5.2 The method according to claim 1 of the patent in suit that can doubtlessly be applied commercially is based on inventive work:

The task on which the invention is based can be approximately inferred from paragraph [0003] of the contested patent. Its core is also included in characteristic A of claim 1, according to which the document which is produced by means of a scanning-type copy design is supposedly not or cannot be faithfully reproduced.

The description of the contested patent states that moiré patterns play a part in printing technology, particularly with respect to line intaglio (also see paragraphs [0002] and [0003] among others). These types of moiré patterns can be generated during the printing process using skewing or tilting when superimposing the scanned mechanicals. They represent interference in the image. Generally, the printer intended (and still intends) to avoid the occurrence of moiré patterns.

By contrast, it was known before the priority date of the contested patent that the graphic design of documents would be specifically performed so that moiré patterns or other image errors occur on their copies or reprints to allow for easy recognition of copied or reprinted documents as counterfeit. These types of methods used the fact that fine lineations which exist in an image, particularly in line intaglio, result in clearly visible changes, and particularly in moiré patterns.

Thus, GB 1 138 011 (K4), which the Plaintiff evidently considers as the nearest prior state of the art with respect to printed publications, states that individual elements (patterns or configurations) are arranged on a document as image parts in areas which will create moiré patterns when reproduced or duplicated as a print in a grid reproduction process; particularly refer to claim 1 in connection with page 5, lines 28 ff, and the image parts in figure 15 that produce the moiré patterns shown in figure 14. The part on page 5, lines 91 ff, which the Plaintiff emphasized, states that the regular linear arrangements that create the moiré patterns can be integrated in represented objects such as portraits or nature scenes. This matches the statement in characteristic B of claim 1 according to which the document utilizes a visible original image showing art, pictures and/or image forms which consist of curvilinear lines, points and/or swirls. Moreover, according to K4's statements, the line arrangement shows a regularity which causes them to appear as a grid structure. However, this does not match the claim in characteristics D and F of claim 1. According to characteristics D and F, an additional grid pattern consisting of parallel lines is created and

superimposed on the original image. Essentially, printed publication K4 did not indicate that when developing a method to produce a document which cannot be faithfully reproduced using scanning-type copying devices from an existing original image featuring art, pictures and/or image forms that consist of curvilinear lines, points and/or swirls according to characteristic B, an additional grid pattern will be produced according to characteristics D and E, and that it will be superimposed on the original image according to characteristic F.

Printed publication DE 36 02 563 C1 (K5) also discusses grid reproductions. When producing mechanicals using grid reproduction, optically effective structures as printed on securities are supposed to produce visible moirés to prevent reprints. Printed publication K5, which goes beyond the doctrine of GB 1 138 011 that was listed as the prior state of the art in this specification, instructs us to organize the individual elements using repeatedly recurring special partial structures so that the space frequencies (grid constants), which are customary for reproduction are largely covered and that the occurrence of moiré patterns cannot be suppressed by skillfully skewing the repro grids. Thus, K5 did not provide an indication either for generating a grid pattern according to characteristics D and E, or for superimposing it on the original image according to characteristic F.

Moreover, the additional prior state of the art listed by the Plaintiff, including the bank notes submitted by the Plaintiff, did not suggest the superimposition of an additionally produced grid pattern on the original image to an expert in a method for producing a document that cannot be faithfully reproduced with a scanning-type copying device.

Likewise, the other objections listed on the cover page of the contested patent at least do not disclose – as already discussed in the novelty comparison – characteristic F and can thus also not suggest the creation of an additional grid pattern and its superimposition on an original image. Printed publication GB 2 217 258, publication date October 25, 1989, does not pertain to the prior state of the art that must be considered when evaluating inventive work, since there is no European application in the patent family with respect to this specification.

An unbiased expert thus did not receive any suggestions from the prior state of the art regarding characteristics D through G, which are important in the claimed method.

Moreover, the selected steps were not within the reach of an expert at the priority date of the contested patent .

Thus, the method according to claim 1 is based on inventive work.

II.

The sub-claims endure together with patent claim 1.

III.

The cost decision is based on § 84, Para. 2, Patent Act [PatG], in connection with § 91, Para. 1, German Code of Civil Procedure [ZPO]; the decision regarding the preliminary enforceability is based on § 99, Para. 1, Patent Act in connection with § 709, German Civil Code.

Lutz	Dr. Frowein	Rauch	Pontzen Judge Pontzen Is retired from service and therefore unable to sign.	Sandkämper
------	-------------	-------	--	------------

Lutz

