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35 USC 112(f) Break-Out

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Review Disclosure

- For the first 5 minutes, review the provided disclosure and highlighted claim to familiarize yourself with the Invention

3 Prong Analysis

- Independently use the provided reference sheet and examiner worksheet to analyze the functional language using the 3 prong analysis of MPEP 2181(I) to determine whether 35 U.S.C. 112(f) is invoked.

Construe Functional Language

- Based upon whether it is determined that 35 U.S.C. 112(f) invoked, identify the broadest reasonable interpretation of the claim limitation and whether the functional language limits the claim scope.

Consider Definiteness

Consider whether issues of indefiniteness exist in the claim based upon the determination of whether 35 U.S.C. 112(f) is invoked and with reference to the specification.

Group Discussion

Report out and discuss findings





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IDENTIFYING A MEANS-PLUS-FUNCTION LIMITATION

- If a claim limitation recites a term and associated functional language, determine whether the claim limitation invokes § 112(f) (means-plus-function).
- Two Presumptions
 - If the word “means” appears in a claim element in combination with a function, it is presumed to be a means-plus-function element to which § 112(f) applies.
 - The presumption that § 112(f) is invoked is overcome and § 112(f) will not be applied when the limitation further includes sufficient structure for performing the recited function.
 - When a claim limitation does not use “means,” the claim limitation is presumed not to invoke § 112(f).
 - The presumption that § 112(f) is not invoked is overcome and § 112(f) will be applied when the limitation uses a word that is a substitute for “means” that is a generic placeholder (also called a nonce word or a verbal construct) that is not recognized as the name of known structure that performs the specific function.
- Evaluate whether § 112(f) should be applied to the claim limitation.
 - MPEP 2181(I) sets forth a 3-prong analysis for applying § 112(f) when:
 - (A) the claim limitation uses the term “means” or a term as a substitute for “means” that is generic placeholder (also called a nonce term or a non-structural term having no specific structural meaning) for performing the claimed function;
 - (B) the phrase “means” or the generic placeholder is modified by functional language, typically linked by the transition word “for” (e.g., “means for”) or another linking word; and
 - (C) the phrase “means” or the generic placeholder is not modified by sufficient structure or material for performing the claimed function.
- Linking words
 - It is not required that the transition “for” be used to link “means” or its substitute to the function.
 - Other linking words can be used, such as “so that” or “configured to,” provided it is clear that the claim element is reciting a function.
 - In certain circumstances, it is also not necessary to use a linking word if other words used with “means” or its substitute convey the function. Such words, however, cannot convey specific structure for performing that function.
 - For example, “ink delivery means” can be interpreted as “means for ink delivery” as the words “ink delivery” only convey function and have no structural meaning. In contrast, “keyboard means” would not be interpreted as a means-plus-function limitation because the word “keyboard” has a known structural meaning, while “keyboarding means” can be interpreted as means-plus-function with “keyboarding” conveying pure function.

This worksheet is used to facilitate the discussion of the interpretation and definiteness under 35 U.S.C. 112(b) of hypothetical product claims reciting functional language. As every claim must be examined individually based on the particular elements recited therein, a separate worksheet should be used to analyze each claim. The use of this worksheet during examination is optional.

Part I: Identifying Functional Language

As a first step, functional limitations in the claim should be identified. A claim limitation is functional when it recites a feature by *what it does* rather than by *what it is*. Claims often use functional language to add further description to some structure or action, for example how elements or steps tie together, or to provide context to claim elements. Functional language can appear in limitations that invoke 35 U.S.C. 112(f) (“means-plus-function”), and in limitations that do not invoke § 112(f). Limitations that do not invoke § 112(f) are typically recited with some structure, material or action to define a particular capability or purpose served by the recited structure, material or action. For more information, refer to MPEP 2111 and 2181, and the following training modules: [Broadest Reasonable Interpretation \(BRI\) and the Plain Meaning of Claim Terms](#); [Examining Functional Claim Limitations: Focus on Computer/Software-related Claims](#); [35 U.S.C. 112\(f\): Identifying Limitations That Invoke 112\(f\)](#); and [35 U.S.C. § 112\(f\): Making the Record Clear](#).

Part II: Construing Functional Language

During examination, claims are given their broadest reasonable interpretation (BRI) in light of the specification as it would be interpreted by one of ordinary skill in the art. It is a best practice to make the record clear during prosecution by explaining the BRI of claim terms, as necessary, including explaining the BRI of any functional language. When § 112(f) is invoked, the BRI of the “means-plus-function” limitation is restricted to the corresponding structure in the supporting disclosure, and its equivalents (the corresponding specification that identifies and links the structure, material or act to the function recited in the claim is considered to be part of the claim limitation). When § 112(f) is not invoked and an element is recited along with a function, that element is construed as being capable of performing the function – in other words, the BRI of that element is limited by the function.

It should be kept in mind, however, that there is a distinction between reciting a function compared to reciting an intended use or result. A functional limitation can provide a patentable distinction (limit the claim scope) by imposing limits on the function of a structure, material or action. Typically no patentable distinction (no limit on the claim scope) is made by an intended use or result unless some structural difference is imposed by the use or result on the structure or material recited in the claim, or some manipulative difference is imposed by the use or result on the action recited in the claim.

For more information, refer to MPEP 2111 and 2181, and the following training modules: [Broadest Reasonable Interpretation \(BRI\) and the Plain Meaning of Claim Terms](#); [Examining Functional Claim Limitations: Focus on Computer/Software-related Claims](#); and [35 U.S.C. 112\(f\): Broadest Reasonable Interpretation and Definiteness of § 112\(f\) Limitations](#).

Part III: Definiteness of Functional Language

While functional limitations may be properly used in claims, the boundaries imposed by a functional limitation must be clearly defined to be definite under 35 U.S.C. 112(b). Claim language that merely states a result to be obtained without providing boundaries on the claim scope (*e.g.*, by not specifying any way to achieve those results) is unclear. Consider the following to determine whether a claim limitation expressed in functional language has clear boundaries: whether one of ordinary skill in the art can determine what structure, material or act in the claim performs this function; whether the limitation has well defined boundaries or only expresses a problem solved or intended result; and what an anticipatory reference would need to disclose in order to satisfy this claim limitation. These considerations are not all-inclusive or limiting.

When § 112(f) is invoked, the specification must adequately disclose a corresponding structure, material or act that performs the function. For “means”-type claims, an adequate disclosure requires that the corresponding structure or material is: (a) disclosed in a way that one of ordinary skill in the art will understand what specific structure or material the inventor has identified to perform the recited function; (b) sufficient to perform the entire function recited in the claim limitation; and (c) clearly linked to the function in the written description.

When the examiner determines that the boundaries of a claim are not reasonably clear, a rejection under § 112(b) should be made. Such a rejection puts the applicant on notice that it must fulfill its statutory duty under § 112(b) to ensure that claim language clearly defines the boundaries of the claim scope sought. In making a rejection, the examiner must identify the specific claim language that is indefinite, and explain why that language renders the boundaries of the claim unclear. When possible, the examiner should suggest how the indefiniteness issues may be resolved.

For more information, refer to MPEP 2173.02, 2173.05(g), 2181 and 2182, and the following training modules: *Enhancing Clarity By Ensuring That Claims Are Definite Under 35 U.S.C. 112(b)*; [Examining Functional Claim Limitations: Focus on Computer/Software-related Claims](#); [35 U.S.C. 112\(f\): Broadest Reasonable Interpretation and Definiteness of § 112\(f\) Limitations](#); and [35 U.S.C. 112\(f\): Evaluating § 112\(f\) Limitations in Software-Related Claims for Definiteness under 35 USC 112\(b\)](#).

Part IV: Addressing Functional Language

Examiners should keep in mind that, under the principles of compact prosecution, each claim should be examined for compliance with every statutory requirement for patentability in the initial review of the application. Thus, when the examiner determines that a claim term or phrase renders the claim indefinite, the examiner should make a rejection based on indefiniteness under 35 U.S.C. 112(b), as well as any other applicable rejection (*e.g.*, under 35 U.S.C. §§ 101, 102, 103, and/or 112).

When functional claim language is found indefinite, it typically lacks an adequate written description under § 112(a), because an indefinite, unbounded functional limitation would cover all ways of performing a function and indicate that the inventor has not provided sufficient disclosure to show possession of the invention. Thus, in most cases, a § 112(b) rejection that is based on functional language having unclear (or no) claim boundaries should be accompanied by a rejection under § 112(a) based on failure to provide a written description for the claim.

Because functional claim language that is not limited to a specific structure covers all devices that are capable of performing the recited function or all materials that have the functional characteristic, a rejection under §§ 102 or 103 may be appropriate if the prior art discloses a device that can inherently perform the claimed function or a material that inherently has the functional characteristic. When making a rejection, it is important that the examiner state on the record how the functional claim term or phrase is being interpreted with respect to the prior art applied in the rejection.

For more information, refer to MPEP 2173.05(g), 2182, and 2183, and the following training modules: [*Examining Functional Claim Limitations: Focus on Computer/Software-related Claims*](#); and [*35 U.S.C. 112\(f\): Broadest Reasonable Interpretation and Definiteness of § 112\(f\) Limitations*](#).

TC2600 CUSTOMER PARTNERSHIP MEETING – JULY 13TH, 2017

35 U.S.C. 112(F) WORKSHOP

FUNCTIONAL LANGUAGE WORKSHEET GUIDANCE

Group Discussion:

Assume that prior art reference X was published by another several years prior to applicant's earliest filing date (*i.e.*, X qualifies as prior art under § 102) and teaches elements that meet all the structural elements recited in this claim.

Using the BRI of this claim taking into account any limits imposed by the functional language, what prior art rejections would be appropriate? Consider scenarios where X explicitly discloses the recited function or where the structure in X performs the function with the same means, an equivalent means or a different means. If the claim has been found indefinite, assume that the best possible understanding of the claim is being used in the prior art rejection for purposes of compact prosecution.

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35 U.S.C. 112(F) WORKSHOP

FUNCTIONAL LANGUAGE WORKSHEET

This worksheet is used to facilitate the discussion of the interpretation and definiteness under 35 U.S.C. 112(b) of hypothetical product claims reciting functional language. As every claim must be examined individually based on the particular elements recited therein, a separate worksheet should be used to analyze each claim. The use of this worksheet during examination is optional.

Example: Computerized Color Editing System Claim: 5

Part I: Identifying Functional Language

This claim includes at least one instance of functional language, which is:

1. Does the claim element including this functional language invoke 35 U.S.C. 112(f)?

Use the three-prong analysis in MPEP 2181 to determine whether the claim limitation invokes § 112(f).

Yes	No	Notes
<input type="checkbox"/>	<input type="checkbox"/>	Prong A is met because: Prong B is met because: Prong C is met because:

Part II: Construing Functional Language

2. What is the broadest reasonable interpretation (BRI) of the functional language? Answer part A if the functional language does not invoke § 112(f), and Part B if the functional language is part of a § 112(f) limitation.

A. BRI if § 112(f) is <u>not</u> invoked
The structure, material or act in the claim that is connected to (<i>i.e.</i> , performs) the recited function is: The BRI of the functional language is:

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FUNCTIONAL LANGUAGE WORKSHEET

B. BRI if § 112(f) is invoked
<p>The corresponding structure, material or act in the specification that performs the recited function is:</p> <p>The BRI of the § 112(f) limitation is:</p>

3. Does the functional language limit the claim scope (*i.e.*, must a prior art reference disclose this functional limitation in order to anticipate the claim)?

Yes	No	Notes
<input type="checkbox"/>	<input type="checkbox"/>	<p>The reason why the functional language does (or does not) limit the claim scope is:</p>

Part III: Definiteness of Functional Language

For § 112(f) limitations:

4. If the functional language is part of a “means”-type § 112(f) limitation, answer the following questions about the corresponding structure or material. Otherwise, skip to Question 5.

A) Does the specification disclose or describe a structure or material as performing the claimed function?

Yes	No	Notes
<input type="checkbox"/>	<input type="checkbox"/>	<p>The corresponding structure or material is:</p>

B) Is the disclosed or described structure or material sufficient to perform the entire claimed function?

Yes	No	Notes
<input type="checkbox"/>	<input type="checkbox"/>	<p>The reason is:</p>

C) Does the specification clearly link the structure or material to the claimed function?

Yes	No	Notes
<input type="checkbox"/>	<input type="checkbox"/>	The reason is:

For functional language that does not invoke § 112(f):

5. Are the boundaries of the functional language clear, *i.e.*, can one of ordinary skill in the art draw the boundary between what is covered by the claim and what is not covered?

Yes	No	Notes
<input type="checkbox"/>	<input type="checkbox"/>	The boundaries of the functional language are:

Following Question 4 or 5, for § 112(f) limitations and limitations that do not invoke § 112(f):

6. Should the claim be rejected as indefinite under 35 U.S.C. 112(b)?

Yes	No	Notes
<input type="checkbox"/>	<input type="checkbox"/>	The indefinite claim language is: This limitation is unclear because: A suggestion for how applicant could resolve the unclear boundaries is:

Part IV: Addressing Functional Language

Group Discussion:

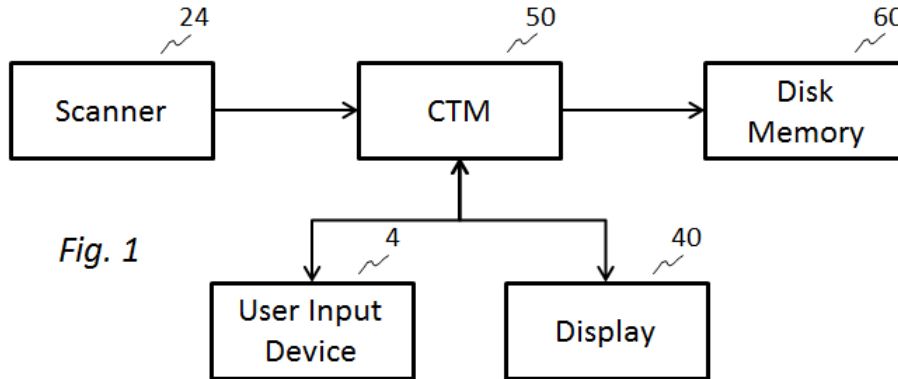
Assume that prior art reference X was published by another several years prior to applicant’s earliest filing date (*i.e.*, X qualifies as prior art under § 102) and teaches elements that meet all the structural elements recited in this claim.

Using the BRI of this claim taking into account any limits imposed by the functional language, what prior art rejections would be appropriate? Consider scenarios where X explicitly discloses the recited function or where the structure in X performs the function with the same means, an equivalent means or a different means. If the claim has been found indefinite, assume that the best possible understanding of the claim is being used in the prior art rejection for purposes of compact prosecution.

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35 U.S.C. 112(F) WORKSHOP
BACKGROUND AND CLAIMS - COMPUTERIZED COLOR-EDITING SYSTEM

BACKGROUND AND CLAIMS

The invention is a computer-assisted color-editing system for editing and reproducing color images. A specification excerpt follows:



Applicant invented a computer-assisted color-editing system for editing and reproducing color images. During use, a scanner 24 scans an original color image, and produces representative appearance signals (e.g., RGB signals). The appearance signals are sent from the scanner to a color translation module (CTM) 50, which is described as hardware (such as aesthetic correction circuitry) or software (such as programming instructions) running on a microprocessor. The color translation module (CTM) 50 is programmed to transform the appearance signals into modified appearance signals representative of a reproduction image, by a user interacting with the system via user input device 4 to introduce aesthetically desired alterations (e.g., user-selected adjustments to the hue, saturation and luminance) into the reproduction image as it is simultaneously shown on display 40. More specifically, user input device 4 receives 8-bit adjustment values (VADA) for each adjustment component (e.g., hue, saturation, luminance) which are added as vectors to the input appearance signals (VA) in color translation module (CTM) 50 to produce the modified appearance signals as $VMA = VA + VADA$. Once the user is satisfied with the appearance of the reproduction image, the color translation module (CTM) 50 sends the modified appearance signals to disk memory 60. In one embodiment, the aesthetic correction circuitry is an electrical circuit having an input of the appearance signals produced by the scanner, a design that permits interactive introduction of aesthetically desired alterations into the appearance signals, and an output of modified appearance signals. The transformation of the appearance signals by the color translation module (CTM) 50 results in an improved reproduction image even when the reproduction image is formed from a smaller number of colorants than the original image (as is typical when a color photograph is reproduced for printing on an inexpensive inkjet printer).

The following page contains a set of hypothetical claims that show variations on the use of functional language. For the workshop, please focus on claim 1

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BACKGROUND AND CLAIMS - COMPUTERIZED COLOR-EDITING SYSTEM

What is claimed is:

1. A computer-assisted color-editing system, comprising:
a scanner that produces appearance signals representative of a color image;
a color translation module for producing modified appearance signals representative of a reproduction image based on user input introducing aesthetically desired alterations into the appearance signals;
a display on which the modified appearance signals are displayed as the reproduction image; and
a disk memory in which the modified appearance signals are stored.
2. A computer-assisted color-editing system, comprising:
a scanner that produces appearance signals representative of a color image;
aesthetic correction circuitry wherein modified appearance signals representative of a reproduction image are produced;
a display on which the modified appearance signals are displayed as the reproduction image; and
a disk memory in which the modified appearance signals are stored.
3. A computer-assisted color-editing system for producing an aesthetically modified reproduction of a color image, comprising:
a scanner;
aesthetic correction circuitry in communication with the scanner;
a display in communication with the aesthetic correction circuitry; and
a disk memory in communication with the aesthetic correction circuitry.
4. A computer-assisted color-editing system, comprising:
a scanner that produces appearance signals representative of a color image;
circuitry that produces modified appearance signals representative of a reproduction image based on user input introducing aesthetically desired alterations into the appearance signals;
a display on which the modified appearance signals are displayed as the reproduction image; and
a disk memory in which the modified appearance signals are stored.
5. A computer-assisted color-editing system, comprising:
a scanner that produces appearance signals representative of a color image;
a display on which modified appearance signals are displayed as the reproduction image; and
a disk memory in which the modified appearance signals are stored,
wherein the appearance signals are modified to produce the modified appearance signals representative of a reproduction image.