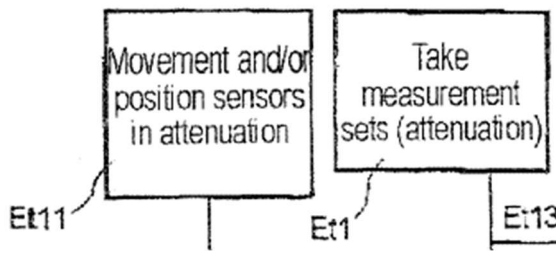


Exhibit 1032: Applicant's Cited Support For Independent Claims During Prosecution

Prosecution Claim 15 (Issued Claim 1, limitations [1a-i], [1a-ii], [1a-iii])

	Application Serial No. 10/955,037 Appeal Brief Patent Docket 27592-00987-US
	A. Claim 15 is directed toward a method of forming an image of a mobile object. Support for claim 15 in the specification is as follows: <u>obtaining a plurality of first images of the mobile object using a first imaging technique while obtaining a plurality of first measurements corresponding to movements of the mobile object using a first sensor system, the first sensor system being independent from the first imaging technique:</u> Fig. 1, refs. Et1, Et11; Page 3, lines 24-25; Page 4, lines 24-28; Page 5, lines 16-17, 20-26; Page 6, lines 6-13 ; and Page 18, lines 1-5.
	Ex. 1002 at 783.
Fig. 1, refs Et1, Et11	 Ex-1002, 244 (corrected Fig. 1); see Ex-1001, Fig. 1.
Page 3, lines 24-25	“Images of the object are taken using an emission technique and an attenuation technique.” Ex-1002, 22 (as-filed specification, page 3, lines 24-25); see Ex-1001, 2:8-9.
Page 4, lines 24-28	“Although the invention is useful at the moment in the special context of acquisition pairs by attenuation and emission, it could be easily be generalized to include any pair of measurement acquisitions and is not limited to the embodiments described below.” Ex-1002, 23 (as-filed specification, page 4, lines 24-28); see Ex-1001, 2:8-9
Page 5 lines 16-17	“Attenuation and emission measurements are made in steps Et1 and Et2 in Fig. 1.” Ex-1002, 24 (as-filed specification, page 5, lines 16-17); see Ex-1001, 2:53-54.
Page 6, lines 6-13	“Steps Et11 and Et12 in Fig. 1 illustrate such uses of sensors. Movement or position sensors are usually suitable for this method. There may be an arbitrary number of these sensors. Some may be associated with the attenuation measurements and others with emission measurements. When a measurement set is taken, the associated sensors record the movement signal, etc., that they receive.” Ex-1002, 25 (as-filed specification, page 6, lines 6-13); see Ex-1001, 3:3-9.

Page 18, lines 1-5

“Attenuation and emission techniques that could be used with the invention include CT (X-ray tomography) and MRI (nuclear magnetic resonance imagery) for attenuation, and SPECT (Single Photon Emission Computed Tomography) or TEP (position emission tomography) for emission.” Ex-1002, 37 (as-filed specification page 18, lines 1-5); see Ex-1001, 7:54-58.

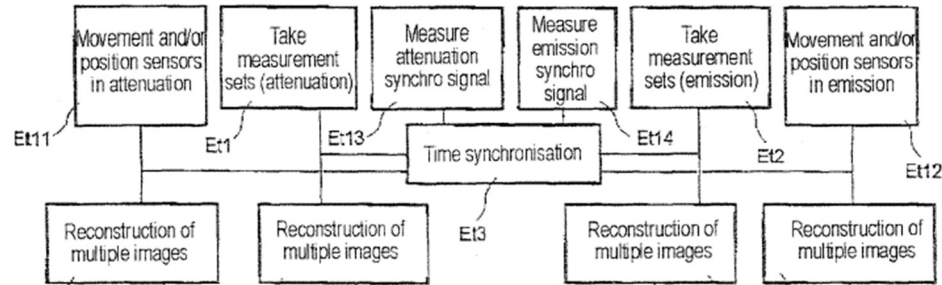
Prosecution Claim 15 (Issued Claim 1, Limitation [1b])

associating the plurality of first images with first movement states of the mobile object using the first measurements:

Fig. 1, ref. Et3; Fig. 2; Page 5, line 26 – page 6, line 5; Page 6, lines 13-16.

Ex. 1002 at 783.

Fig. 1, ref. Et3



Ex-1002, 244 (corrected Fig. 1); see Ex-1001, Fig. 1.

Figs. 2

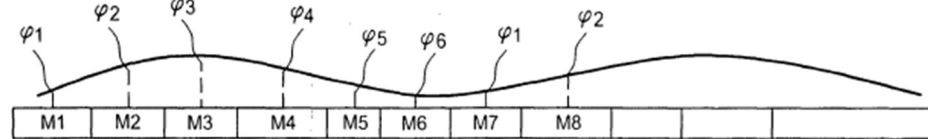


FIG. 2

Ex-1002, 10 (as-filed Fig. 2); see Ex-1001, Fig. 2.

**Page 5, line 26 –
Page 6, line 5**

“Each measurement set is then associated with a determined state of the patient during which a measurement of his movement was made. If this measurement relates to a cyclic phenomenon such as breathing, the measurement sets may be associated with time phases of this movement as suggested in the diagram in Figure 2, in which six measurement sets M1 to M6 taken over a breathing cycle are associated with average phases as φ_1 to φ_6 .” Ex-1002, 24-25 (as-filed specification, page 5, line 26 - page 6, line 5); see Ex-1001, 2:62-3:2.

Page 6, lines 6-13

“Steps Et11 and Et12 in Fig. 1 illustrate such uses of sensors. Movement or position sensors are usually suitable for this method. There may be an arbitrary number of these sensors. Some may be associated with the attenuation measurements and others with emission measurements. When a measurement set is taken, the associated sensors record the movement signal, etc., that they receive.” Ex-1002, 25 (as-filed specification, page 6, lines 6-13); see Ex-1001, 3:3-9.

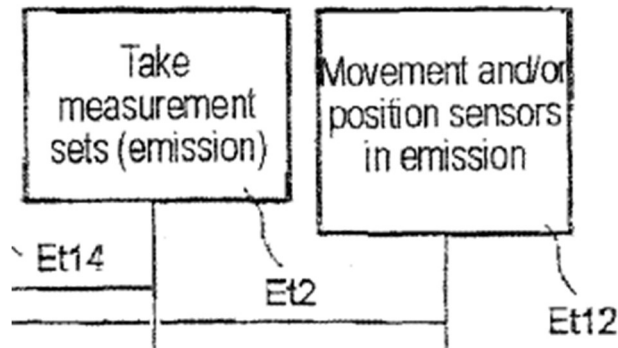
Prosecution Claim 15 (Issued Claim 1, Limitations [1c-i], [1c-ii], [1c-iii])

obtaining a plurality of second images of the mobile object using a second imaging technique while obtaining a plurality of second measurements corresponding to movements of the mobile object using a second sensor system, the second sensor system being independent from the second imaging technique:

Fig. 1, refs. Et2, Et12; Page 3, lines 24-25; Page 4, lines 24-28; Page 5, lines 16-17, 20-26; Page 6, lines 6-13 ; and Page 18, lines 1-5.

Ex. 1002 at 783.

Fig. 1, refs. Et2, Et12



Ex-1002, 244 (corrected Fig. 1); see Ex-1001, Fig. 1.

Page 3, lines 24-25

“Images of the object are taken using an emission technique and an attenuation technique.” Ex-1002, 22 (as-filed specification, page 3, lines 24-25); see Ex-1001, 2:8-9

Page 4, lines 24-28

“Although the invention is useful at the moment in the special context of acquisition pairs by attenuation and emission, it could be easily be generalized to include any pair of measurement acquisitions and is not limited to the embodiments described below.” Ex-1002, 23 (as-filed specification, page 4, lines 24-28); see Ex-1001, 2:8-9.

Page 5, lines 16-17

“Attenuation and emission measurements are made in steps Et1 and Et2 in Fig. 1.” Ex-1002, 24 (as-filed specification, page 5, lines 16-17); see Ex-1001, 2:53-54.

Page 18, lines 1-5

“Attenuation and emission techniques that could be used with the invention include CT (X-ray tomography) and MRI (nuclear magnetic resonance imagery) for attenuation, and SPECT (Single Photon Emission Computed Tomography) or TEP (position emission tomography) for emission.” Ex-1002, 37 (as-filed specification page 18, lines 1-5); see Ex-1001, 7:54-58.

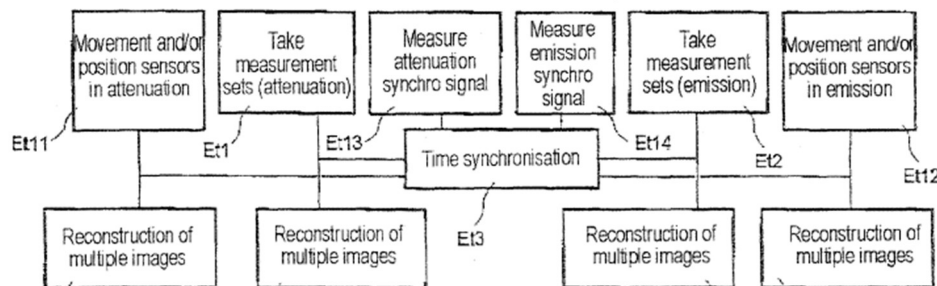
Prosecution Claim 15 (Issued Claim 1, Limitation [1d])

associating the plurality of second images with second movement states of the mobile object using the first measurements:

Fig. 1, ref. Et3; Fig. 2; Page 5, line 26 – page 6, line 5; Page 6, lines 13-16.

Ex. 1002 at 783.

Fig. 1, ref. Et3



Ex-1002, 244 (corrected Fig. 1); see Ex-1001, Fig. 1.

Figs. 2

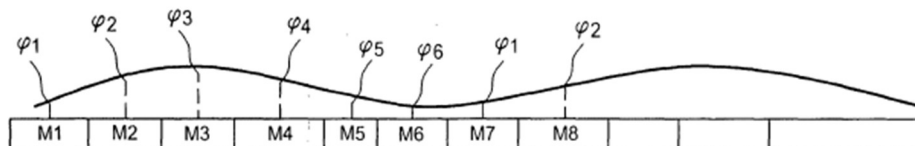


FIG. 2

Ex-1002, 10 (as-filed Fig. 2); see Ex-1001, Fig. 2.

**Page 5, line 26 –
Page 6, line 5**

“Each measurement set is then associated with a determined state of the patient during which a measurement of his movement was made. If this measurement relates to a cyclic phenomenon such as breathing, the measurement sets may be associated with time phases of this movement as suggested in the diagram in Figure 2, in which six measurement sets M1 to M6 taken over a breathing cycle are associated with average phases as φ_1 to φ_6 .” Ex-1002, 24-25 (as-filed specification, page 5, line 26 - page 6, line 5); see Ex-1001, 2:62-3:2.

Page 6, lines 6-13

“Steps Et11 and Et12 in Fig. 1 illustrate such uses of sensors. Movement or position sensors are usually suitable for this method. There may be an arbitrary number of these sensors. Some may be associated with the attenuation measurements and others with emission measurements. When a measurement set is taken, the associated sensors record the movement signal, etc., that they receive.” Ex-1002, 25 (as-filed specification, page 6, lines 6-13); see Ex-1001, 3:3-9.

Prosecution Claim 15 (Issued Claim 1, Limitation [1e])

forming an image of the mobile object based on said plurality of first images, said associated plurality of first movement measurements, and said first movement states and on said plurality of second images, said associated plurality of second movement measurements, and said second movement states:

Fig. 1, refs. Et6, Et7, Et8, Et9, Et10, Et17, Et18; Page 7, lines 3-17 ; Page 8, line 6 – page 11, line 2 ; Page 11, line 26 – page 17, line 28.

Ex. 1002 at 783-784.

Fig. 1, refs. Et6, Et7, Et8, Et9, Et10, Et17, Et18

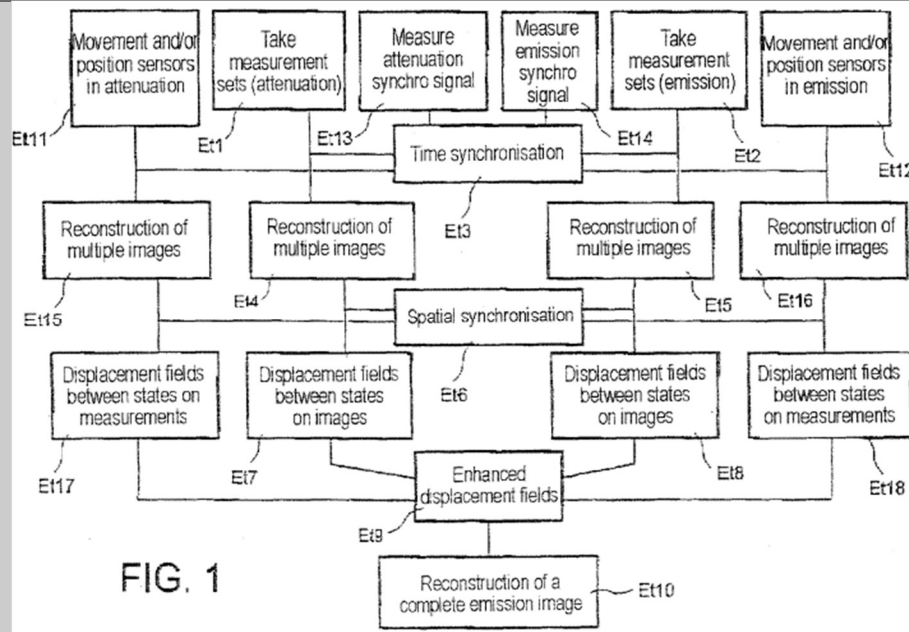


FIG. 1

Ex-1002, 244 (corrected Fig. 1); see Ex-1001, Fig. 1.

Page 7, lines 3-17

“After these measurement set collection and time synchronisation steps Et1, Et2, and Et3, at least a partial image reconstruction is carried out for the patient by multiple states in steps Et4 and Et5 for each measurement technique. This means that each measurement set such as M1 is used to give a particular image assuming that the patient is motionless throughout the time that the measurement sets are being taken. Conventional digital means such as filtering and back projection are applied. The partial images thus obtained are usually based on data that are too incomplete to be precise, but in any case they are sufficiently detailed so that they can be compared with each other to determine the patient’s movements between two phases. For further information, refer to the previous state of the art.”
Ex-1002, 26 (as-filed specification, page 7, lines 3-17 (line 17 cuts sentence cut off)); see Ex-1001, 3:7-39.

Page 8, line 6 - page 11

See Ex-1002, 26-30 (as filed specification, page 8, line 6 - page 11, line 2); see Ex-1001, 3:54-4:60.

page 11, line 26 - page 17, line 28

See Ex-1002, 30-36 (as filed specification, page 11, line 26 - page 17, line 28); see Ex-1001, 5:15-7:48.

Prosecution Claim 15 (Issued Claim 1, Limitation [1f])

wherein the first imaging technique is different from the second imaging technique:

Fig. 1, refs. Et1, Et2; Page 3, lines 24-25; Page 4, lines 24-28; Page 5, lines 16-17; and Page 18, lines 1-5.

Ex. 1002 at 784.

Fig. 1, refs. Et1, Et2	Ex-1002, 244 (corrected Fig. 1); <i>see</i> Ex-1001, Fig. 1.
Page 3, lines 24-25	“Images of the object are taken using an emission technique and an attenuation technique.” Ex-1002, 22 (as-filed specification, page 3, lines 24-25); <i>see</i> Ex-1001, 2:8-9.
Page 4, lines 24-28	“Although the invention is useful at the moment in the special context of acquisition pairs by attenuation and emission, it could be easily be generalized to include any pair of measurement acquisitions and is not limited to the embodiments described below.” Ex-1002, 23 (as-filed specification, page 4, lines 24-28); <i>see</i> Ex-1001, 2:8-9
Page 5 lines 16-17	“Attenuation and emission measurements are made in steps Et1 and Et2 in Fig. 1.” Ex-1002, 24 (as-filed specification, page 5, lines 16-17); <i>see</i> Ex-1001, 2:53-54.
Page 18, lines 1-5	“Attenuation and emission techniques that could be used with the invention include CT (X-ray tomography) and MRI (nuclear magnetic resonance imagery) for attenuation, and SPECT (Single Photon Emission Computed Tomography) or TEP (position emission tomography) for emission.” Ex-1002, 37 (as-filed specification page 18, lines 1-5); <i>see</i> Ex-1001, 7:54-58.

Prosecution Claim 26 (Issued Claim 12, limitations [12a-i])

C. Claim 26 is directed toward an apparatus for forming an image of a mobile object. Support for claim 26 in the specification is as follows:

means for obtaining a plurality of first images of the mobile object using a first imaging technique:

Fig. 1, ref. Et1; Page 3, lines 24-25; Page 4, lines 24-28; Page 5, lines 16-17; and Page 18, lines 1-5.

Ex. 1002 at 784.

Fig. 1, ref Et1.

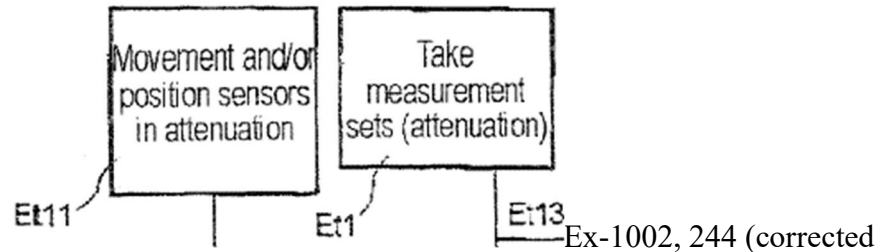


Fig. 1); *see* Ex-1001, Fig. 1.

Page 3, lines 24-25

“Images of the object are taken using an emission technique and an attenuation technique.” Ex-1002, 22 (as-filed specification, page 3, lines 24-25); *see* Ex-1001, 2:8-9.

Page 4, lines 24-28

“Although the invention is useful at the moment in the special context of acquisition pairs by attenuation and emission, it could be easily be generalized to include any pair of measurement acquisitions and is not limited to the embodiments described below.” Ex-1002, 23 (as-filed specification, page 4, lines 24-28); *see* Ex-1001, 2:8-9

Page 5 lines 16-17

“Attenuation and emission measurements are made in steps Et1 and Et2 in Fig. 1.” Ex-1002, 24 (as-filed specification, page 5, lines 16-17); *see* Ex-1001, 2:53-54.

Page 18, lines 1-5

“Attenuation and emission techniques that could be used with the invention include CT (X-ray tomography) and MRI (nuclear magnetic resonance imagery) for attenuation, and SPECT (Single Photon Emission Computed Tomography) or TEP (position emission tomography) for emission.” Ex-1002, 37 (as-filed specification page 18, lines 1-5); *see* Ex-1001, 7:54-58.

Prosecution Claim 26 (Issued Claim 12, Limitation [12a-ii], [12a-iii])

means for obtaining a plurality of first measurements corresponding to movements of the mobile object while obtaining the plurality of first images, the means for obtaining the plurality of first measurements being independent from the first imaging technique:

Fig. 1, ref. Et11; Page 5, lines 20-26; and Page 6, lines 6-13.

Ex. 1002 at 784.

Fig. 1, ref Et1.

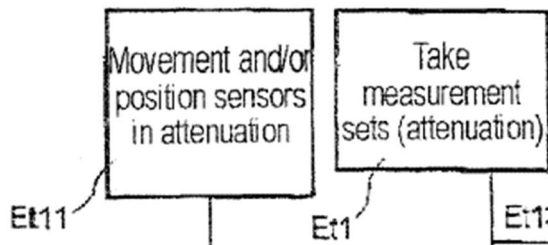


Fig. 1); *see* Ex-1001, Fig. 1.

Page 5, lines 20-26.

“However, a time synchronization of measurement sets is usually necessary, within the two series and between the two series after step Et3. One useful method for achieving this may be to measure a patient movement using an independent sensor such as a breathing sensor, a pressure sensor or an electrocardiogram.” Ex-1002, 24 (as-filed specification, page 5, lines 20-26); Ex-1001, 2:57-62.

Page 6, lines 6-13

“Steps Et11 and Et12 in Fig. 1 illustrate such uses of sensors. Movement or position sensors are usually suitable for this method. There may be an arbitrary number of these sensors. Some may be associated with the attenuation measurements and others with emission measurements. When a measurement set is taken, the associated sensors record the movement signal, etc., that they receive.” Ex-1002, 25 (as-filed specification, page 6, lines 6-13); *see* Ex-1001, 3:3-9.

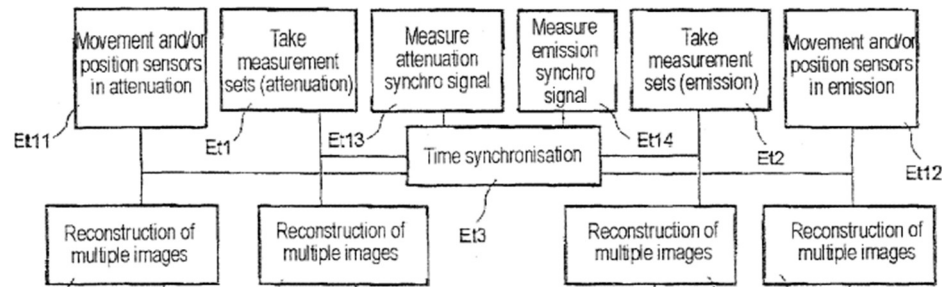
Prosecution Claim 26 (Issued Claim 12, Limitation [12b])

means for associating the plurality of first images with first movement states of the mobile object using the first measurements:

Fig. 1, ref. Et3; Fig. 2; Page 5, line 26 – page 6, line 5; Page 6, lines 13-16.

Ex. 1002 at 784.

Fig. 1, ref. Et3



Ex-1002, 244 (corrected Fig. 1); see Ex-1001, Fig. 1.

Figs. 2

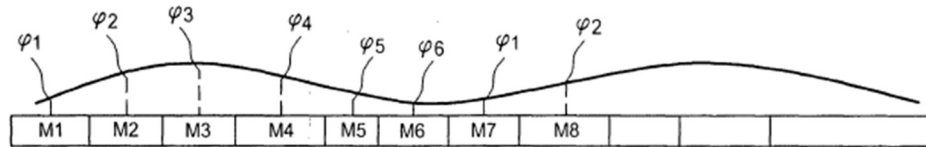


FIG. 2

Ex-1002, 10 (as-filed Fig. 2); see Ex-1001, Fig. 2.

**Page 5, line 26 –
Page 6, line 5**

“Each measurement set is then associated with a determined state of the patient during which a measurement of his movement was made. If this measurement relates to a cyclic phenomenon such as breathing, the measurement sets may be associated with time phases of this movement as suggested in the diagram in Figure 2, in which six measurement sets M1 to M6 taken over a breathing cycle are associated with average phases as φ_1 to φ_6 .” Ex-1002, 24-25 (as-filed specification, page 5, line 26 - page 6, line 5); see Ex-1001, 2:62-3:2.

Page 6, lines 6-13

“Steps Et11 and Et12 in Fig. 1 illustrate such uses of sensors. Movement or position sensors are usually suitable for this method. There may be an arbitrary number of these sensors. Some may be associated with the attenuation measurements and others with emission measurements. When a measurement set is taken, the associated sensors record the movement signal, etc., that they receive.” Ex-1002, 25 (as-filed specification, page 6, lines 6-13); see Ex-1001, 3:3-9.

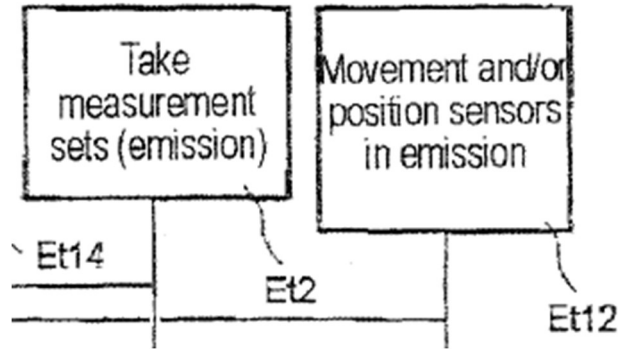
Prosecution Claim 26 (Issued Claim 12, Limitation [12c-i])

means for obtaining a plurality of second images of the mobile object using a second imaging technique:

Fig. 1, ref. Et2; Page 3, lines 24-25; Page 4, lines 24-28; Page 5, lines 16-17; and Page 18, lines 1-5.

Ex. 1002 at 784.

Fig. 1, ref. Et2



Ex-1002, 244 (corrected Fig. 1); see Ex-1001, Fig. 1.

Page 3, lines 24-25

“Images of the object are taken using an emission technique and an attenuation technique.” Ex-1002, 22 (as-filed specification, page 3, lines 24-25); see Ex-1001, 2:8-9

Page 4, lines 24-28

“Although the invention is useful at the moment in the special context of acquisition pairs by attenuation and emission, it could be easily be generalized to include any pair of measurement acquisitions and is not limited to the embodiments described below.” Ex-1002, 23 (as-filed specification, page 4, lines 24-28); see Ex-1001, 2:8-9.

Page 5, lines 16-17

“Attenuation and emission measurements are made in steps Et1 and Et2 in Fig. 1.” Ex-1002, 24 (as-filed specification, page 5, lines 16-17); see Ex-1001, 2:53-54.

Page 18, lines 1-5

“Attenuation and emission techniques that could be used with the invention include CT (X-ray tomography) and MRI (nuclear magnetic resonance imagery) for attenuation, and SPECT (Single Photon Emission Computed Tomography) or TEP (position emission tomography) for emission.” Ex-1002, 37 (as-filed specification page 18, lines 1-5); see Ex-1001, 7:54-58.

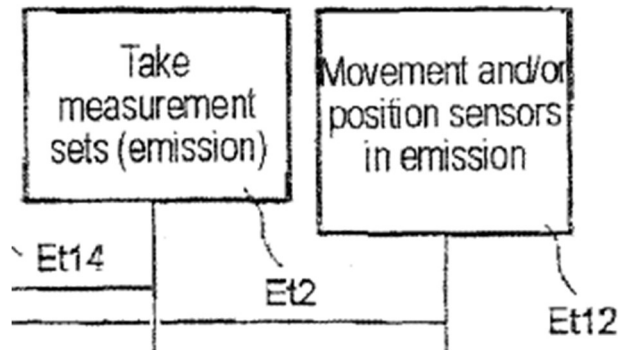
Prosecution Claim 26 (Issued Claim 12, Limitations [12c-ii], [12c-iii])

means for obtaining a plurality of second measurements corresponding to movements of the mobile object while obtaining the plurality of second images, the means for obtaining the plurality of second measurements being independent from the second imaging technique:

Fig. 1, ref. Et12; Page 5, lines 20-26; and Page 6, lines 6-13.

Ex. 1002 at 784.

Fig. 1, ref. Et12



Ex-1002, 244 (corrected Fig. 1); see Ex-1001, Fig. 1.

Page 5, lines 20-26.

“However, a time synchronization of measurement sets is usually necessary, within the two series and between the two series after step Et3. One useful method for achieving this may be to measure a patient movement using an independent sensor such as a breathing sensor, a pressure sensor or an electrocardiogram.” Ex-1002, 24 (as-filed specification, page 5, lines 20-26); Ex-1001, 2:57-62.

Page 6, lines 6-13

“Steps Et11 and Et12 in Fig. 1 illustrate such uses of sensors. Movement or position sensors are usually suitable for this method. There may be an arbitrary number of these sensors. Some may be associated with the attenuation measurements and others with emission measurements. When a measurement set is taken, the associated sensors record the movement signal, etc., that they receive.” Ex-1002, 25 (as-filed specification, page 6, lines 6-13); see Ex-1001, 3:3-9.

Prosecution Claim 26 (Issued Claim 12, Limitation [12d])

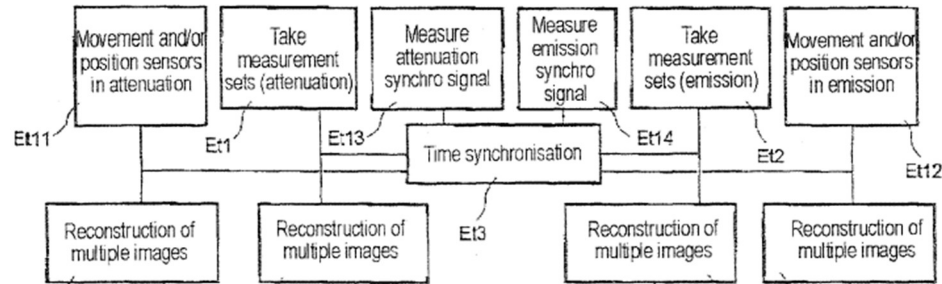
means for associating the plurality of second images with second movement states of the mobile object using the first measurements:

Fig. 1, ref. Et3; Fig. 2; Page 5, line 26 – page 6, line 5; Page 6, lines 13-

16.

Ex. 1002 at 784.

Fig. 1, ref. Et3



Ex-1002, 244 (corrected Fig. 1); see Ex-1001, Fig. 1.

Fig. 2

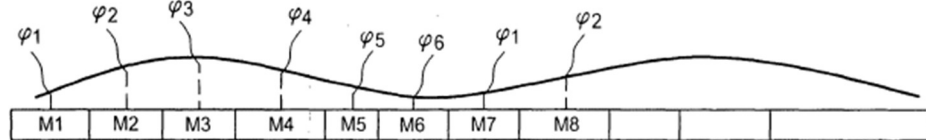


FIG. 2

Ex-1002, 10 (as-filed Fig. 2); see Ex-1001, Fig. 2.

**Page 5, line 26 –
Page 6, line 5**

“Each measurement set is then associated with a determined state of the patient during which a measurement of his movement was made. If this measurement relates to a cyclic phenomenon such as breathing, the measurement sets may be associated with time phases of this movement as suggested in the diagram in Figure 2, in which six measurement sets M1 to M6 taken over a breathing cycle are associated with average phases as ϕ_1 to ϕ_6 .” Ex-1002, 24-25 (as-filed specification, page 5, line 26 - page 6, line 5); see Ex-1001, 2:62-3:2.

Page 6, lines 6-13

“Steps Et11 and Et12 in Fig. 1 illustrate such uses of sensors. Movement or position sensors are usually suitable for this method. There may be an arbitrary number of these sensors. Some may be associated with the attenuation measurements and others with emission measurements. When a measurement set is taken, the associated sensors record the movement signal, etc., that they receive.” Ex-1002, 25 (as-filed specification, page 6, lines 6-13); see Ex-1001, 3:3-9.

Prosecution Claim 26 (Issued Claim 12, Limitation [12e])

means for forming an image of the mobile object based on said plurality of first images, said associated plurality of first measurements, and said first movement states and on said plurality of said second images, said associated plurality of second measurements, and said second movement states:

Fig. 1, refs. Et6, Et7, Et8, Et9, Et10, Et17, Et18; Page 7, lines 3-17 ; Page 8, line 6 – page 11, line 2 ; Page 11, line 26 – page 17, line 28.

Ex. 1002 at 784.

Fig. 1, refs. Et6, Et7, Et8, Et9, Et10, Et17, Et18

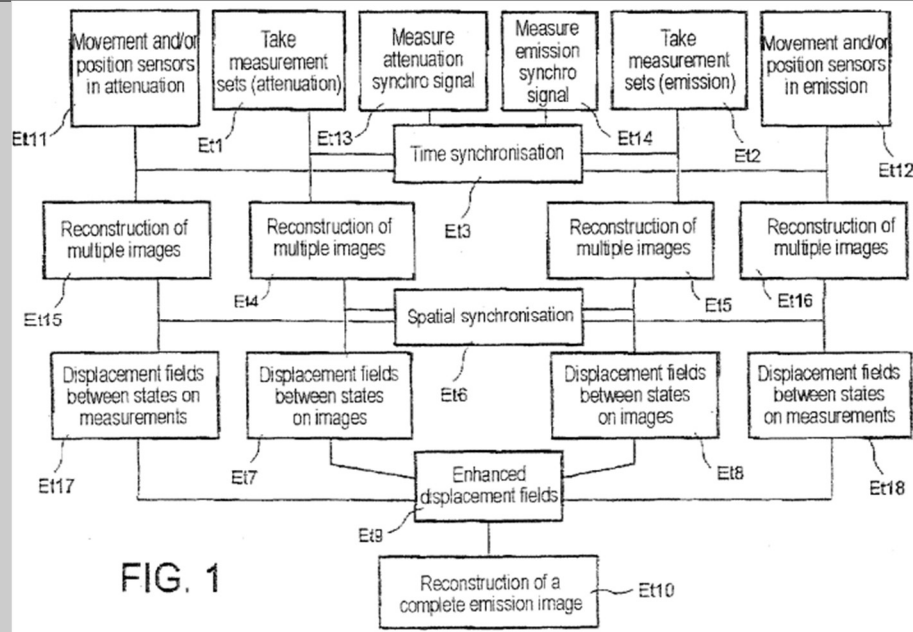


FIG. 1

Ex-1002, 244 (corrected Fig. 1); see Ex-1001, Fig. 1.

Page 7, lines 3-17

“After these measurement set collection and time synchronisation steps Et1, Et2, and Et3, at least a partial image reconstruction is carried out for the patient by multiple states in steps Et4 and Et5 for each measurement technique. This means that each measurement set such as M1 is used to give a particular image assuming that the patient is motionless throughout the time that the measurement sets are being taken. Conventional digital means such as filtering and back projection are applied. The partial images thus obtained are usually based on data that are too incomplete to be precise, but in any case they are sufficiently detailed so that they can be compared with each other to determine the patient’s movements between two phases. For further information, refer to the previous state of the art.” Ex-1002, 26 (as-filed specification, page 7, lines 3-17 (line 17 cuts sentence cut off)); see Ex-1001, 3:7-39.

Page 8, line 6 - page 11

See Ex-1002, 26-30 (as filed specification, page 8, line 6 - page 11, line 2); see Ex-1001, 3:54-4:60.

page 11, line 26 - page 17, line 28

See Ex-1002, 30-36 (as filed specification, page 11, line 26 - page 17, line 28); see Ex-1001, 5:15-7:48.

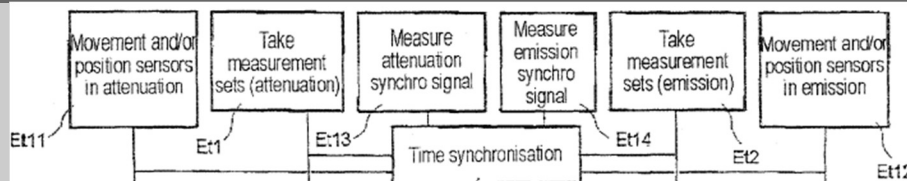
Prosecution Claim 26 (Issued Claim 12, Limitation [12f])

wherein the first imaging technique is different from the second imaging technique:

Fig. 1, refs. Et1, Et2; Page 3, lines 24-25; Page 4, lines 24-28; Page 5, lines 16-17; and Page 18, lines 1-5.

Ex. 1002 at 784.

Fig. 1, refs. Et1, Et2



Ex-1002, 244 (corrected Fig. 1); *see* Ex-1001, Fig. 1.

Page 3, lines 24-25

“Images of the object are taken using an emission technique and an attenuation technique.” Ex-1002, 22 (as-filed specification, page 3, lines 24-25); *see* Ex-1001, 2:8-9.

Page 4, lines 24-28

“Although the invention is useful at the moment in the special context of acquisition pairs by attenuation and emission, it could be easily be generalized to include any pair of measurement acquisitions and is not limited to the embodiments described below.” Ex-1002, 23 (as-filed specification, page 4, lines 24-28); *see* Ex-1001, 2:8-9

Page 5 lines 16-17

“Attenuation and emission measurements are made in steps Et1 and Et2 in Fig. 1.” Ex-1002, 24 (as-filed specification, page 5, lines 16-17); *see* Ex-1001, 2:53-54.

Page 18, lines 1-5

“Attenuation and emission techniques that could be used with the invention include CT (X-ray tomography) and MRI (nuclear magnetic resonance imagery) for attenuation, and SPECT (Single Photon Emission Computed Tomography) or TEP (positron emission tomography) for emission.” Ex-1002, 37 (as-filed specification page 18, lines 1-5); *see* Ex-1001, 7:54-58.