Patent Claims

1. Method for evaluating

- a combination ($f\hat{}(t)$) or several combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) of two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) resp. of their transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), which can be represented on the real resp. complex number plane, using a means for evaluating, wherein ($s_1(t)$) represents the function value of the first signal at the point in time t, ($s_2(t)$) represents the function value of the second signal at the point in time t, ..., ($s_m(t)$) represents the function value of the mth signal at the point in time t,

or

- a freely definable function ($f^{\#}(t)$) or of freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) of one signal ($s^{\#}(t)$) or of several signals ($s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$), which can be represented on the real resp. complex number plane, using a means for evaluating, wherein ($s_1^{\#}(t)$) represents the function value of the first signal at the point in time t, ($s_2^{\#}(t)$) represents the function value of the second signal at the point in time t, ..., ($s_\Omega^{\#}(t)$) represents the function value of the Ωth signal at the point in time t,

characterized in that

- for one or several signal sections (t_1, t_2,, ..., t_χ) the invariants of one function or of several functions of the combination ($f\hat{}(t)$) or of the

combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) are determined using a means for determining the invariants,

or

- for one or several signal sections (t_1, t_2, ..., t_ς) the invariants of one function or of several functions of the freely definable function ($f^\#(t)$) or of the freely definable functions ($f_1^\#(t)$, $f_2^\#(t)$, ..., $f_\mu^\#(t)$) are determined using a means for determining the invariants.

2. Method according to claim 1, characterized in that

- for a combination ($f\hat{}(t)$) or several combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) of two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) resp. of their transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), which can be represented on the real resp. complex number plane,

or

- for a freely definable function ($f^\#(t)$) or freely definable functions ($f_1^\#(t)$, $f_2^\#(t)$, ..., $f_\mu^\#(t)$) of one signal ($s^\#(t)$) or of several signals ($s_1^\#(t)$, $s_2^\#(t)$, ..., $s_\omega^\#(t)$), which can be represented on the real resp. complex number plane,

- for one or several signal sections (t_1, t_2, ..., t_χ) the invariants of one function or of several functions of the combination ($f\hat{}(t)$) or of the combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) are determined which, if necessary after appropriate

conversion, contain the function by means of an equation in the form of ($Av_1^2 + Bv_2^2 + Cv_3^2 + 2Fv_2v_3 + 2Gv_3v_1 + 2Hv_1v_2 = 0$),

or

- for one or several signal sections (t_1, t_2, ..., t_ς) the invariants of one function or of several functions of the freely definable function ($f^\#(t)$) or of the freely definable functions ($f_1^\#(t)$, $f_2^\#(t)$, ..., $f_\mu^\#(t)$) are determined which, if necessary after appropriate conversion, contain the function by means of an equation in the form of ($Av_1^2 + Bv_2^2 + Cv_3^2 + 2Fv_2v_3 + 2Gv_3v_1 + 2Hv_1v_2 = 0$).

3. Method according to claim 1 or 2, characterized in that the invariants, if necessary after appropriate conversion, can be represented as linear combination of invariants resp. of vectors on one plane which, if necessary after appropriate conversion, is vertical to the real or complex number plane and crosses the latter, if necessary after rotation or appropriate conversion, in the diagonals of the 1st and 3rd quadrants.

4. Method according to one of the preceding claims, characterized in that it uses the intersection points of these invariants resp. vectors with the real or complex number plane, on which

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$)

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$),

if necessary after appropriate conversion, can be represented.

5. Method according to one of the preceding claims, characterized in that said signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$ resp. $s^{\#}(t)$ resp. $s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$ (resp. $x(t)$, $y(t)$ resp. $x_{\#}(t)$, $y_{\#}(t)$)) are audio signals.

6. Method according to one of the preceding claims, characterized in that on the basis of the determined invariants or, if necessary after appropriate conversion, of the intersection points of these invariants resp. vectors with the real or complex number plane, on which, if necessary after appropriate conversion, is/are located

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$)

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$),

or also on the basis of a selection of these invariants or intersection points, a selection according to statistical or other criteria is made.

7. Method according to one of the preceding claims, characterized in that

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) or the used two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) or the used transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), can be represented on the real resp. complex number plane,

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) or the used signal ($s^{\#}(t)$) or the used signals ($s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$), can be represented on the real resp. complex number plane,

can be normalized as regards their amplitude or other properties of theirs.

8. Method according to claim 7, characterized in that the normalization occurs on the basis of the signal level.

9. Method according to claim 7 or 8, characterized in that the normalization occurs on the basis of *mean-square energy*.

10. Method according to one of the preceding claims, characterized in that

- the intersection points (ξ_{h1}) of the combination ($f\hat{}(t_1)$) or of the combinations ($f_1\hat{}(t_1)$, $f_2\hat{}(t_1)$, ...,

$f_p\hat{}(t_1)$) of two or more signals ($s_1(t_1)$, $s_2(t_1)$, ..., $s_m(t_1)$) resp. of their transfer functions ($t_1(s_1(t_1))$, $t_2(s_2(t_1))$, ..., $t_m(s_m(t_1))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h1}) of the freely definable function ($f^{\#}(t_1)$) or of the freely definable functions ($f_1^{\#}(t_1)$, $f_2^{\#}(t_1)$, ..., $f_\mu^{\#}(t_1)$) of the signal ($s^{\#}(t_1)$) or of the signals ($s_1^{\#}(t_1)$, $s_2^{\#}(t_1)$, ..., $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane,

wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1$$

is calculated;

- the intersection points (ξ_{h2}) of the combination ($f\hat{}(t_2)$) or of the combinations ($f_1\hat{}(t_2)$, $f_2\hat{}(t_2)$, ...,

$f_p\hat{}(t_2)$) of two or more signals ($s_1(t_2)$, $s_2(t_2)$, ..., $s_m(t_2)$) resp. of their transfer functions ($t_1(s_1(t_2))$, $t_2(s_2(t_2))$, ..., $t_m(s_m(t_2))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h2}) of the freely definable function ($f^{\#}(t_2)$) or of the freely definable functions ($f_1^{\#}(t_2)$, $f_2^{\#}(t_2)$, ..., $f_\mu^{\#}(t_2)$) of the signal ($s^{\#}(t_2)$) or of the signals ($s_1^{\#}(t_2)$, $s_2^{\#}(t_2)$, ..., $s_\Omega^{\#}(t_2)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^*_2) of all intersection points (ξ_{h1}, ξ_{h2}

$$\xi^*_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

are calculated, and, insofar as the mean value (ξ°_υ) closest to (ξ^*_2), where υ is equal to 1 or 2, then lies

within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with (ξ°_υ)

- the combination $(f\hat{}(t_\upsilon))$ or combinations $(f_1\hat{}(t_\upsilon)$ or $f_2\hat{}(t_\upsilon)$ or ... or $f_p\hat{}(t_\upsilon))$ or signals $(s_1(t_\upsilon)$ or $s_2(t_\upsilon)$ or ... or $s_m(t_\upsilon))$ or the transfer functions $(t_1(s_1(t_\upsilon))$ or $t_2(s_2(t_\upsilon))$ or ... or $t_m(s_m(t_\upsilon)))$, which can be represented on the real resp. complex number plane,

or

- the freely definable function $(f^\#(t_\upsilon))$ or freely definable functions $(f_1^\#(t_\upsilon)$ or $f_2^\#(t_\upsilon)$ or ... or $f_\mu^\#(t_\upsilon))$ or signals $(s^\#(t_\upsilon))$ or $(s_1^\#(t_\upsilon)$ or $s_2^\#(t_\upsilon)$ or ... or $s_\Omega^\#(t_\upsilon))$, which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise, provided both mean values $(\xi^\circ_1, \xi^\circ_2)$ have the same distance to (ξ^*_2), (ξ°_1) is selected and, provided the first mean value (ξ°_1) lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, by selecting to be matched with (ξ°_1)

- the combination $(f\hat{}(t_1))$ or combinations $(f_1\hat{}(t_1)$ or $f_2\hat{}(t_1)$ or ... or $f_p\hat{}(t_1))$ or signals $(s_1(t_1)$ or $s_2(t_1)$ or ... or $s_m(t_1))$ or the transfer functions $t_1(s_1(t_1))$ or $t_2(s_2(t_1))$ or ... or $t_m(s_m(t_1)))$, which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_1)$) or freely definable functions ($f_1^{\#}(t_1)$ or $f_2^{\#}(t_1)$ or ... or $f_\mu^{\#}(t_1)$) or signals ($s^{\#}(t_1)$) or ($s_1^{\#}(t_1)$ or $s_2^{\#}(t_1)$ or ... or $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise, in a qth step

- the intersection points (ξ_{hq}) of the combination ($f\hat{}(t_q)$) or of the combinations ($f_1\hat{}(t_q)$, $f_2\hat{}(t_q)$, ..., $f_p\hat{}(t_q)$) of two or more signals ($s_1(t_q)$, $s_2(t_q)$, ..., $s_m(t_q)$) resp. of their transfer functions ($t_1(s_1(t_q))$, $t_2(s_2(t_q))$, ..., $t_m(s_m(t_q))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{hq}) of the freely definable function ($f^{\#}(t_q)$) or of the freely definable functions ($f_1^{\#}(t_q)$, $f_2^{\#}(t_q)$, ..., $f_\mu^{\#}(t_q)$) of the signal ($s^{\#}(t_q)$) or of the signals ($s_1^{\#}(t_q)$, $s_2^{\#}(t_q)$, ..., $s_\Omega^{\#}(t_q)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_{q} := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^{*}_{q}) of all intersection points (ξ_{h1}, ξ_{h2}, ..., ξ_{hq}

$$\xi^{*}_{q} := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / \left(k_1 + k_2 + \ldots k_q \right)$$

are calculated, and, insofar as the mean value (ξ°_{ϖ}) closest to (ξ^{*}_{q}), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^{*}_{q}, \xi^{*}_{q} + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with (ξ°_{ϖ})

- the combination ($f\hat{}(t_{\varpi})$) or combinations ($f_1\hat{}(t_{\varpi})$ or $f_2\hat{}(t_{\varpi})$ or ... or $f_p\hat{}(t_{\varpi})$) or signals ($s_1(t_{\varpi})$ or $s_2(t_{\varpi})$ or ... or $s_m(t_{\varpi})$) or the transfer functions ($t_1(s_1(t_{\varpi}))$ or $t_2(s_2(t_{\varpi}))$ or ... or $t_m(s_m(t_{\varpi}))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_{\varpi})$) or freely definable functions ($f_1^{\#}(t_{\varpi})$ or $f_2^{\#}(t_{\varpi})$ or ... or $f_{\mu}^{\#}(t_{\varpi})$) or signals ($s^{\#}(t_{\varpi})$) or ($s_1^{\#}(t_{\varpi})$ or $s_2^{\#}(t_{\varpi})$ or

... or $s_{\Omega}^{\#}(t_{\varpi})$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise for the same mean value of various

- combination ($f\hat{}(t_s)$) or combinations ($f_1\hat{}(t_s)$, $f_2\hat{}(t_s)$, ..., $f_p\hat{}(t_s)$) or signals ($s_1(t_s)$, $s_2(t_s)$, ..., $s_m(t_s)$) or the transfer functions ($t_1(s_1(t_s))$, $t_2(s_2(t_s))$, ..., $t_m(s_m(t_s))$), which can be represented on the real resp. complex number plane, $1 \leq s \leq q$,

or

- freely definable function ($f^{\#}(t_\iota)$) or freely definable functions ($f_1^{\#}(t_\iota)$, $f_2^{\#}(t_\iota)$, ..., $f_\mu^{\#}(t_\iota)$) or signals ($s^{\#}(t_\iota)$) or Signale ($s_1^{\#}(t_\iota)$, $s_2^{\#}(t_\iota)$, ..., $s_{\Omega}^{\#}(t_\iota)$), which can be represented on the real resp. complex number plane, $1 \leq \iota \leq q$,

or the properties or parameters of these signals or transfer functions or combinations or functions, those signals or those transfer functions or those combinations or those functions or those properties or parameters are selected that so far appeared with the highest frequency, otherwise, insofar as several signals or transfer functions or combinations or functions or their properties or parameters occur with the same frequency, those are selected that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the

first index number of the optimization steps respectively undergone, otherwise if this too applies to several signals or transfer functions or combinations or functions or their properties or parameters, the first one that appears is selected, otherwise if two mean values from ($\xi^{\circ}_1, \xi^{\circ}_2, ..., \xi^{\circ}_q$) are close to ($\xi^{*}_q$), insofar as in a q-1th step one of the two mean values resp. their associated signals or transfer functions or combinations or functions or their properties or parameters is selected, the very same ones are retained and, insofar as the selected mean value then lies within the interval [$-\sigma + \xi^{*}_q, \xi^{*}_q + \sigma$], where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with this mean value the signals or transfer functions or combinations or functions or their properties or parameters, the entire process is ended, otherwise a q+1th step in the same form as represented for the qth step is performed and the process is repeated as long as necessary until one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached,

or in that

- the intersection points (ξ_{h1}) of the combination ($f\hat{}(t_1)$) or of the combinations ($f_1\hat{}(t_1)$, $f_2\hat{}(t_1)$, ..., $f_p\hat{}(t_1)$) of two or more signals ($s_1(t_1)$, $s_2(t_1)$, ..., $s_m(t_1)$) resp. of their transfer functions ($t_1(s_1(t_1))$, $t_2(s_2(t_1))$, ..., $t_m(s_m(t_1))$), which can be represented on the real resp. complex number plane

or

- the intersection points (ξ_{h1}) of the freely definable function ($f^{\#}(t_1)$) or of the freely definable functions ($f_1^{\#}(t_1)$, $f_2^{\#}(t_1)$, ..., $f_\mu^{\#}(t_1)$) of the signal ($s^{\#}(t_1)$) or of the signals ($s_1^{\#}(t_1)$, $s_2^{\#}(t_1)$, ..., $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1$$

is calculated;

- the intersection points (ξ_{h2}) of the combination ($f\hat{}(t_2)$) or of the combinations ($f_1\hat{}(t_2)$, $f_2\hat{}(t_2)$, ..., $f_p\hat{}(t_2)$) of two or more signals ($s_1(t_2)$, $s_2(t_2)$, ..., $s_m(t_2)$) resp. of their transfer functions ($t_1(s_1(t_2))$, $t_2(s_2(t_2))$, ..., $t_m(s_m(t_2))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h2}) of the freely definable function ($f^{\#}(t_2)$) or of the freely definable functions ($f_1^{\#}(t_2)$, $f_2^{\#}(t_2)$, ..., $f_\mu^{\#}(t_2)$) des Signals ($s^{\#}(t_2)$) of the signal ($s^{\#}(t_2)$) or of the signals ($s_1^{\#}(t_2)$, $s_2^{\#}(t_2)$, ..., $s_\omega^{\#}(t_2)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^{*}_2) of all intersection points (ξ_{h1}, ξ_{h2}

$$\xi^{*}_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

are calculated, and, insofar as the mean value (ξ°_υ) closest to (ξ^{*}_2), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^{*}_2, \xi^{*}_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with (ξ°_υ)

- the combination ($f\hat{}(t_\upsilon)$) or combinations ($f_1\hat{}(t_\upsilon)$ or $f_2\hat{}(t_\upsilon)$ or ... or $f_p\hat{}(t_\upsilon)$) or signals ($s_1(t_\upsilon)$ or $s_2(t_\upsilon)$ or ... or $s_m(t_\upsilon)$) or the transfer functions ($t_1(s_1(t_\upsilon))$ or $t_2(s_2(t_\upsilon))$ or ... or $t_m(s_m(t_\upsilon))$), which can be represented on the real resp. complex number plane

or

- the freely definable function ($f^{\#}(t_\upsilon)$) or freely definable functions ($f_1^{\#}(t_\upsilon)$ or $f_2^{\#}(t_\upsilon)$ or ... or $f_\mu^{\#}(t_\upsilon)$) or signals ($s^{\#}(t_\upsilon)$) or ($s_1^{\#}(t_\upsilon)$ or $s_2^{\#}(t_\upsilon)$ or ... or $s_\Omega^{\#}(t_\upsilon)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise, provided both mean values (ξ°_1, ξ°_2) have the same distance to (ξ^*_2), (ξ°_1) is selected and, provided the first mean value (ξ°_1) lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, by selecting to be matched with (ξ°_1)

- the combination ($f\hat{}(t_1)$) or combinations ($f_1\hat{}(t_1)$ or $f_2\hat{}(t_1)$ or ... or $f_p\hat{}(t_1)$) or signals ($s_1(t_1)$ or $s_2(t_1)$ or ... or $s_m(t_1)$) or the transfer functions ($t_1(s_1(t_1))$ or $t_2(s_2(t_1))$ or ... or $t_m(s_m(t_1))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_1)$) or freely definable functions ($f_1^{\#}(t_1)$ or $f_2^{\#}(t_1)$ or ... or $f_\mu^{\#}(t_1)$) or signals ($s^{\#}(t_1)$) or ($s_1^{\#}(t_1)$ or $s_2^{\#}(t_1)$ or ...

or $s_{\Omega}^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise in a qth step

- the intersection points (ξ_{hq}) of the combination ($f\hat{}(t_q)$) or of the combinations ($f_1\hat{}(t_q)$, $f_2\hat{}(t_q)$, ..., $f_p\hat{}(t_q)$) of two or more signals ($s_1(t_q)$, $s_2(t_q)$, ..., $s_m(t_q)$) resp. of their transfer functions ($t_1(s_1(t_q))$, $t_2(s_2(t_q))$, ..., $t_m(s_m(t_q))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{hq}) of the freely definable function ($f^{\#}(t_q)$) or of the freely definable functions ($f_1^{\#}(t_q)$, $f_2^{\#}(t_q)$, ..., $f_{\mu}^{\#}(t_q)$) of the signal ($s^{\#}(t_q)$) or of the signals ($s_1^{\#}(t_q)$, $s_2^{\#}(t_q)$, ..., $s_{\Omega}^{\#}(t_q)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_q := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^*_q) of all intersection points ($\xi_{h1,}, \xi_{h2}, \ldots, \xi_{hq}$

$$\xi^*_q := \left(\sum_{h_1=1}^{k_1} \xi_{h1} + \sum_{h_2=1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q=1}^{k_q} \xi_{hq} \right) / \left(k_1 + k_2 + \ldots k_q \right)$$

are calculated, and, insofar as the mean value (ξ°_ϖ) closest to (ξ^*_q), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with (ξ°_ϖ)

- the combination ($f\hat{}(t_\varpi)$) or combinations ($f_1\hat{}(t_\varpi)$ or $f_2\hat{}(t_\varpi)$ or ... or $f_p\hat{}(t_\varpi)$) or signals ($s_1(t_\varpi)$ or $s_2(t_\varpi)$ or ... or $s_m(t_\varpi)$) or the transfer functions ($t_1(s_1(t_\varpi))$ or $t_2(s_2(t_\varpi))$ or ... or $t_m(s_m(t_\varpi))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^\#(t_\varpi)$) or freely definable functions ($f_1^\#(t_\varpi)$ or $f_2^\#(t_\varpi)$ or ... or $f_\mu^\#(t_\varpi)$) or signals ($s^\#(t_\varpi)$) or ($s_1^\#(t_\varpi)$ or $s_2^\#(t_\varpi)$ or ... or $s_\Omega^\#(t_\varpi)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise for the same mean value of various

- combination ($f\hat{}(t_s)$) or combinations ($f_1\hat{}(t_s)$, $f_2\hat{}(t_s)$, ..., $f_p\hat{}(t_s)$) or signals ($s_1(t_s)$, $s_2(t_s)$, ..., $s_m(t_s)$) or the transfer functions ($t_1(s_1(t_s))$, $t_2(s_2(t_s))$, ..., $t_m(s_m(t_s))$), which can be represented on the real resp. complex number plane, $1 \leq s \leq q$,

or

- freely definable function ($f^{\#}(t_\iota)$) or freely definable functions ($f_1^{\#}(t_\iota)$, $f_2^{\#}(t_\iota)$, ..., $f_\mu^{\#}(t_\iota)$) or signals ($s^{\#}(t_\iota)$) or signals ($s_1^{\#}(t_\iota)$, $s_2^{\#}(t_\iota)$, ..., $s_\Omega^{\#}(t_\iota)$), which can be represented on the real resp. complex number plane, $1 \leq \iota \leq q$,

or the properties or parameters of these signals or transfer functions or combinations or functions, those signals or those transfer functions or those combinations or those functions or those properties or parameters are selected that so far appeared with the highest frequency, otherwise, insofar as several signals or transfer functions or combinations or functions or their properties or parameters occur with the same frequency, those are selected that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, otherwise if this too applies to several signals or transfer functions or combinations or functions or their properties or

parameters, the first one that appears is selected, otherwise if two mean values from ($\xi^{\circ}_1, \xi^{\circ}_2, ..., \xi^{\circ}_q$) are close to ($\xi^{*}_q$), insofar as in a q-1th step one of the two mean values resp. their associated signals or transfer functions or combinations or functions or their properties or parameters is selected, the very same ones are retained and, insofar as the selected mean value then lies within the interval [$-\sigma + \xi^{*}_q, \xi^{*}_q + \sigma$], where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with this mean value the signals or transfer functions or combinations or functions or their properties or parameters, the entire process is ended, otherwise a q+1th step in the same form as represented for the qth step is performed and the process is repeated as long as necessary until one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached.

11. Method according to one of the preceding claims, characterized in that

- the intersection points (ξ_{h1}) of the sum of the complex transfer functions ($f^{*}[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ and $g^{*}[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_1)$, $y(t_1)$), which can be represented on the complex or real number plane are determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the

complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then their mean value (

$$\xi^{\circ}_{1} := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1)$$

is calculated;

- the intersection points (ξ_{h2}) of the sum of the complex transfer functions ($f^{*}[x(t_2)] = [x(t_2)/\sqrt{2}] * (-1 + i)$ and $g^{*}[y(t_2)] = [y(t_2)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_2)$, $y(t_2)$), which can be represented on the complex or real number plane, are determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_{2} := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2)$$

as well as the mean value (ξ^{*}_{2}) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^{*}_{2} := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

are calculated, and, insofar as the mean value (ξ°_{υ}) closest to (ξ^{*}_{2}), where υ is equal to 1 or 2, then lies

within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting the signals ($x(t_\upsilon)$ or $y(t_\upsilon)$) or transfer functions ($f^*[x(t_\upsilon)] = [x(t_\upsilon)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_\upsilon] = [y(t_\upsilon)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_υ), the entire process is ended, otherwise, provided both mean values (ξ°_1, ξ°_2) have the same distance to (ξ^*_2), (ξ°_1) is selected and, provided (ξ°_1) lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, by selecting signals ($x(t_1)$ or $y(t_1)$) or transfer functions ($f^*[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties of parameters of these signals or transfer functions or sums to be matched with (ξ°_1), the entire process is ended, otherwise

- in a qth step, the intersection points (ξ_{hq}) of the sum of the complex transfer functions ($f^*[x(t_q)] = [x(t_q)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_q)] = [y(t_q)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_q)$, $y(t_q)$), which can be represented on the complex or real number plane, are determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_{q} := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^{*}_{q}) of all intersection points (ξ_{h1}, ξ_{h2}, ..., ξ_{hq},

$$\xi^{*}_{q} := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / (k_1 + k_2 + \ldots k_q),$$

are calculated, and, insofar as the mean value (ξ°_{ϖ}) closest to (ξ^{*}_{q}), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^{*}_{q}, \xi^{*}_{q} + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting signals ($x(t_{\varpi})$ or $y(t_{\varpi})$) or transfer functions ($f^{*}[x(t_{\varpi})] = [x(t_{\varpi})/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_{\varpi})] = [y(t_{\varpi})/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_{ϖ}), the entire process is ended, otherwise in case of the same mean value of different signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, $1 \leq s \leq q$, those signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer

functions or sums are selected that so far appeared with the highest frequency, otherwise, insofar as as several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums occur with the same frequency, those signals ($x(t_s)$ or $y(t_s)$) or Transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, otherwise if this too applies to several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, the first one that appears resp. its signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected, otherwise, if two mean values from $(\xi^\circ_1, \xi^\circ_2, ..., \xi^\circ_q)$ are close to (ξ^*_q), insofar as in a $q\text{-}1^{th}$ step one of the two mean values resp. their associated signals ($x(t)$ or $y(t)$) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific

properties or parameters of these signals or transfer functions or sums are selected, the very same ones are retained, and, insofar as the selected mean value then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with this mean value the signals (x(t) or y(t)) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, the entire process is ended, otherwise

- a $q+1^{th}$ step in the same form as represented for the qth step is performed and the process is repeated as long as necessary until one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached,

or that

- the intersection points (ξ_{h1}) of the sum of the complex transfer functions ($f^*[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_1)$, $y(t_1)$), which can be represented on the complex or real number plane, is determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real

number plane is identical with the imaginary axis of the complex number plane, and then their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1$$

is calculated;

- the intersection points (ξ_{h2}) of the sum of the complex transfer functions ($f^*[x(t_2)] = [x(t_2)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_2)] = [y(t_2)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_2)$, $y(t_2)$), which can be represented on the complex or real number plane, are determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^*_2) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^*_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

are calculated, and, insofar as the mean value (ξ°_{υ}) closest to (ξ^*_2), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ

represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting the signals ($x(t_\upsilon)$ or $y(t_\upsilon)$) or transfer functions ($f^*[x(t_\upsilon)] = [x(t_\upsilon)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_\upsilon] = [y(t_\upsilon)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_υ), the entire process is ended, otherwise

- in a qth step, the intersection points (ξ_{hq}) of the sum of the complex transfer functions ($f^*[x(t_q)] = [x(t_q)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_q)] = [y(t_q)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_q)$, $y(t_q)$), which can be represented on the complex or real number plane, are determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then their mean value (

$$\xi^\circ_q := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^*_q) of all intersection points (ξ_{h1}, ξ_{h2}, ..., ξ_{hq},

$$\xi^*_q := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / (k_1 + k_2 + \ldots k_q),$$

are calculated, and, insofar as the mean value (ξ°_{ϖ}) closest to (ξ^{*}_{q}), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^{*}_{q}, \xi^{*}_{q} + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting signals ($x(t_{\varpi})$ or $y(t_{\varpi})$) or transfer functions ($f^{*}[x(t_{\varpi})] = [x(t_{\varpi})/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_{\varpi})] = [y(t_{\varpi})/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_{ϖ}), the entire process is ended, otherwise in case of the same mean value of different signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, $1 \leq s \leq q$, those signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected that so far appeared with the highest frequency, otherwise, insofar as as several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums occur with the same frequency, those signals ($x(t_s)$ or $y(t_s)$) or Transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or or sums of these

transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, otherwise if this too applies to several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, the first one that appears resp. its signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected, otherwise, if two mean values from $(\xi^\circ_1, \xi^\circ_2, ..., \xi^\circ_q)$ are close to (ξ^*_q), insofar as in a q-1th step one of the two mean values resp. their associated signals ($x(t)$ or $y(t)$) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected, the very same ones are retained, and, insofar as the selected mean value then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with this mean value the signals ($x(t)$ or $y(t)$) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters

of these signals or transfer functions or sums, the entire process is ended, otherwise

- a $q+1^{th}$ step in the same form as represented for the qth step is performed and the process is repeated as long as necessary until one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached.

12. Method according to one of the preceding claims, characterized by the additional use of compression methods or data reduction methods or other selective evaluation methods.

13. Device with

- means for evaluating a combination ($f\hat{}(t)$) or several combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) of two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) resp. of their transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), which can be represented on the real resp. complex number plane, wherein ($s_1(t)$) represents the function value of the first signal at the point in time t, ($s_2(t)$) represents the function value of the second signal at the point in time t, ..., ($s_m(t)$) represents the function value of the mth signal at the point in time t,

or

- means for evaluating a freely definable function ($f^{\#}(t)$) or freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) of one signal ($s^{\#}(t)$) or of several signals ($s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$), which can be

represented on the real resp. complex number plane, wherein ($s_1^{\#}(t)$) represents the function value of the first signal at the point in time t, ($s_2^{\#}(t)$) represents the function value of the second signal at the point in time t, ..., ($s_\Omega^{\#}(t)$) represents the function value of the Ωth signal at the point in time t,

characterized by

- means for determining the invariants of one function or of several functions of the combination ($f\hat{}(t)$) or of the combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) for one or several signal sections (t_1, t_2, ..., t_χ),

or

- means for determining the invariants of one function or of several functions of the freely definable function ($f^{\#}(t)$) or of the freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) for one or several signal sections (t_1, t_2, ..., t_ς).

14. Device according to claim 13, with

- means for evaluating a combination ($f\hat{}(t)$) or several combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) of two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) resp. of their transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), which can be represented on the real resp. complex number plane,

or

- means for evaluating a freely definable function ($f^{\#}(t)$) or freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) of one signal ($s^{\#}(t)$) or of several signals ($s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$), which can be represented on the real resp. complex number plane,

characterized in that

- means for determining the invariants of one function or of several functions which, if necessary after appropriate conversion, use the function by means of an equation in the form of ($Av_1^2 + Bv_2^2 + Cv_3^2 + 2Fv_2v_3 + 2Gv_3v_1 + 2Hv_1v_2 = 0$), of the combination ($f\hat{}(t)$) or of the combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) for one or several signal sections (t_1, t_2, ..., t_χ),

or

- means for determining the invariants of one function or of several functions which, if necessary after appropriate conversion, use the function by means of an equation in the form of ($Av_1^2 + Bv_2^2 + Cv_3^2 + 2Fv_2v_3 + 2Gv_3v_1 + 2Hv_1v_2 = 0$), of the freely definable function ($f^{\#}(t)$) or of the freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) for one or several signal sections (t_1, t_2, ..., t_ς).

15. Device according to claim 13 or 14, characterized in that the invariants, if necessary after appropriate conversion, can be represented as linear combination of invariants resp. of vectors on one plane which, if necessary after appropriate conversion, is vertical to the real or complex number plane and crosses the latter, if necessary after

rotation or appropriate conversion, in the diagonals of the 1st and 3rd quadrants.

16. Device according to one of the claims 13 to 15, characterized by means which use the intersection points of these invariants resp. vectors with the real or complex number plane, on which

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$)

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$),

if necessary after appropriate conversion, can be represented.

17. Device according to one of the claims 13 to 16, characterized in that said signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$ resp. $s^{\#}(t)$ resp. $s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$ (resp. $x(t)$, $y(t)$ resp. $x_{\#}(t)$, $y_{\#}(t)$)) are audio signals.

18. Device according to one of the claims 13 to 17, chracterized by means for selecting, according to statistical and other criteria, on the basis of the determined invariants or, if necessary after appropriate conversion, the intersection points of these invariants resp. vectors with the real or complex number plane, on which

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$)

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$),

is/are located, if necessary after appropriate conversion, or also on the basis of a selection of these invariants or intersection points.

19. Device according to one of the claims 13 to 18, characterized by means for normalization as regards the amplitude or other properties of

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) or the used two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) or the used transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), which can be represented on the real resp. complex number plane,

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) or the used signal ($s^{\#}(t)$) or the used signals ($s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$), which can be represented on the real resp. complex number plane.

20. Device according to claim 19, characterized by means for normalization on the basis of the signal level.

21. Device according to claim 19 or 20, characterized by means for normalization on the basis of *mean-square energy.*

22. Device according to one of the claims 13 to 21, characterized by means for determining

- the intersection points (ξ_{h1}) of the combination ($f\hat{}(t_1)$) or of the combinations ($f_1\hat{}(t_1)$, $f_2\hat{}(t_1)$, ..., $f_p\hat{}(t_1)$) of two or more signals ($s_1(t_1)$, $s_2(t_1)$, ..., $s_m(t_1)$) resp. of their transfer functions ($t_1(s_1(t_1))$, $t_2(s_2(t_1))$, ..., $t_m(s_m(t_1))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h1}) of the freely definable function ($f^{\#}(t_1)$) or of the freely definable functions ($f_1^{\#}(t_1)$, $f_2^{\#}(t_1)$, ..., $f_\mu^{\#}(t_1)$) of the signal ($s^{\#}(t_1)$) or of the signals ($s_1^{\#}(t_1)$, $s_2^{\#}(t_1)$, ..., $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the

real number plane is identical with the imaginary axis of the complex number plane, and then determining their mean value (

$$\xi^{\circ}_{1} := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1 ;$$

as well as for subsequently determining

- the intersection points (ξ_{h2}) of the combination ($f\hat{}(t_2)$) or of the combinations ($f_1\hat{}(t_2)$, $f_2\hat{}(t_2)$, ..., $f_p\hat{}(t_2)$) of two or more signals ($s_1(t_2)$, $s_2(t_2)$, ..., $s_m(t_2)$) resp. of their transfer functions ($t_1(s_1(t_2))$, $t_2(s_2(t_2))$, ..., $t_m(s_m(t_2))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h2}) of the freely definable function ($f^{\#}(t_2)$) or of the freely definable functions ($f_1^{\#}(t_2)$, $f_2^{\#}(t_2)$, ..., $f_\mu^{\#}(t_2)$) of the signal ($s^{\#}(t_2)$) or of the signals ($s_1^{\#}(t_2)$, $s_2^{\#}(t_2)$, ..., $s_\Omega^{\#}(t_2)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then determining their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^{*}_2) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^{*}_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

as well as means for determining whether the mean value (ξ°_{υ}) closest to (ξ^{*}_2), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^{*}_2, \xi^{*}_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, as well as, if this is the case, for selecting to be matched with (ξ°_{υ})

- the combination ($f\hat{}(t_{\upsilon})$) or combinations ($f_1\hat{}(t_{\upsilon})$ or $f_2\hat{}(t_{\upsilon})$ or ... or $f_p\hat{}(t_{\upsilon})$) or signals ($s_1(t_{\upsilon})$ or $s_2(t_{\upsilon})$ or ... or $s_m(t_{\upsilon})$) or the transfer functions ($t_1(s_1(t_{\upsilon}))$ or $t_2(s_2(t_{\upsilon}))$ or ... or $t_m(s_m(t_{\upsilon}))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_{\upsilon})$) or freely definable functions ($f_1^{\#}(t_{\upsilon})$ or $f_2^{\#}(t_{\upsilon})$ or ... or $f_{\mu}^{\#}(t_{\upsilon})$) or signals ($s^{\#}(t_{\upsilon})$) or ($s_1^{\#}(t_{\upsilon})$ or $s_2^{\#}(t_{\upsilon})$ or ... or $s_{\Omega}^{\#}(t_{\upsilon})$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as for determining whether possibly two mean values ($\xi^{\circ}_1, \xi^{\circ}_2$) have the same distance to (ξ^{*}_2), (ξ°_1), and if this is the case, for selecting (ξ°_1), as well as for determining whether the first mean value (ξ°_1) lies within the interval $[-\sigma + \xi^{*}_2, \xi^{*}_2 + \sigma]$,], where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, as well as, if this is the case, for selecting to be matched with (ξ°_υ) (ξ°_1)

- the combination ($f\hat{}(t_1)$) or combinations ($f_1\hat{}(t_1)$ or $f_2\hat{}(t_1)$ or ... or $f_\rho\hat{}(t_1)$) or signals ($s_1(t_1)$ or $s_2(t_1)$ or ... or $s_m(t_1)$) or the transfer functions $t_1(s_1(t_1))$ or $t_2(s_2(t_1))$ or ... or $t_m(s_m(t_1))$, which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_1)$) or freely definable functions ($f_1^{\#}(t_1)$ or $f_2^{\#}(t_1)$ or ... or $f_\mu^{\#}(t_1)$) or signals ($s^{\#}(t_1)$) or ($s_1^{\#}(t_1)$ or $s_2^{\#}(t_1)$ or ... or $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as means for determining

- the intersection points (ξ_{hq}) of the combination ($f\hat{}(t_q)$) or of the combinations ($f_1\hat{}(t_q)$, $f_2\hat{}(t_q)$, ...,

$f_p\hat{}(t_q)$) of two or more signals ($s_1(t_q)$, $s_2(t_q)$, ..., $s_m(t_q)$) resp. of their transfer functions ($t_1(s_1(t_q))$, $t_2(s_2(t_q))$, ..., $t_m(s_m(t_q))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{hq}) of the freely definable function ($f^{\#}(t_q)$) or of the freely definable functions ($f_1^{\#}(t_q)$, $f_2^{\#}(t_q)$, ..., $f_\mu^{\#}(t_q)$) of the signal ($s^{\#}(t_q)$) or of the signals ($s_1^{\#}(t_q)$, $s_2^{\#}(t_q)$, ..., $s_\Omega^{\#}(t_q)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, this in a qth step, and then determining their mean value (

$$\xi^{\circ}_q := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^*_q) of all intersection points (ξ_{h1}, ξ_{h2}, ..., ξ_{hq}

$$\xi^*_q := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / (k_1 + k_2 + \ldots k_q)$$

as well as means for determining whether the mean value (ξ°_{ϖ}) closest to (ξ^*_q), where ϖ is equal to 1 or 2 or ...

or q, then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and if this is the case, for selecting to be matched with (ξ°_ϖ)

- the combination $(f\hat{}(t_\varpi))$ or combinations $(f_1\hat{}(t_\varpi)$ or $f_2\hat{}(t_\varpi)$ or ... or $f_p\hat{}(t_\varpi))$ or signals $(s_1(t_\varpi)$ or $s_2(t_\varpi)$ or ... or $s_m(t_\varpi))$ or transfer functions $(t_1(s_1(t_\varpi))$ or $t_2(s_2(t_\varpi))$ or ... or $t_m(s_m(t_\varpi)))$, which can be represented on the real resp. complex number plane,

or

- the freely definable function $(f^\#(t_\varpi))$ or freely definable functions $(f_1^\#(t_\varpi)$ or $f_2^\#(t_\varpi)$ or ... or $f_\mu^\#(t_\varpi))$ or signals $(s^\#(t_\varpi))$ or $(s_1^\#(t_\varpi)$ or $s_2^\#(t_\varpi)$ or ... or $s_\Omega^\#(t_\varpi))$, which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as means for determining if for the same mean value, various

- combinations $(f\hat{}(t_s))$ or combinations $(f_1\hat{}(t_s)$, $f_2\hat{}(t_s)$, ..., $f_p\hat{}(t_s))$ or signals $(s_1(t_s)$, $s_2(t_s)$, ..., $s_m(t_s))$ or transfer functions $(t_1(s_1(t_s))$, $t_2(s_2(t_s))$,

..., $t_m(s_m(t_s))$), which can be represented on the real resp. complex number plane, $1 \leq s \leq q$,

or

- freely definable functions ($f^{\#}(t_\iota)$) or freely definable functions ($f_1^{\#}(t_\iota)$, $f_2^{\#}(t_\iota)$, ..., $f_\mu^{\#}(t_\iota)$) or signals ($s^{\#}(t_\iota)$) or signals ($s_1^{\#}(t_\iota)$, $s_2^{\#}(t_\iota)$, ..., $s_\Omega^{\#}(t_\iota)$), which can be represented on the real resp. complex number plane, $1 \leq \iota \leq q$,

or the properties or parameters of these signals or transfer functions or combinations or functions exist, and, if this is the case, for selecting those signals or those transfer functions or those combinations or those functions or those properties or parameters of these signals or transfer functions or combinations or functions, that so far appeared with the highest frequency, as well as for determining whether several signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions occur with the same frequency, and if this is the case for selecting those signals or those transfer functions or those combinations or those functions or those properties or parameters of these signals or transfer functions or combinations or functions that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, as well as means for determining whether this too applies to several signals or transfer functions or combinations or functions or the properties or parameters of these signals or

transfer functions or combinations or functions, and if this is the case, for selecting the first one that appears as well as for determining whether two mean values from ($\xi^{\circ}_1, \xi^{\circ}_2, ..., \xi^{\circ}_q$) are close to ($\xi^{*}_q$), and if this is the case, for determining whether in a q-1th step one of the two mean values resp. their associated signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions have been selected, and if this is the case, for retaining those signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for determining whether the thus selected mean value then lies within the interval [$-\sigma + \xi^{*}_q, \xi^{*}_q + \sigma$], where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and if this is the case for selecting to be matched with this mean value the signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as

means for performing a q+1th step in the same form as represented for the qth step and for continuing the process and for determining whether one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached, and thus whether the process should be ended, and if this is the case, for ending the entire process;

or also means for determining

- the intersection points (ξ_{h1}) of the combination ($f\hat{}(t_1)$) or of the combinations ($f_1\hat{}(t_1)$, $f_2\hat{}(t_1)$, ..., $f_p\hat{}(t_1)$) of two or more signals ($s_1(t_1)$, $s_2(t_1)$, ..., $s_m(t_1)$) resp. of their transfer functions ($t_1(s_1(t_1))$, $t_2(s_2(t_1))$, ..., $t_m(s_m(t_1))$), which can be represented on the real resp. complex number plane

or

- the intersection points (ξ_{h1}) of the freely definable function ($f^{\#}(t_1)$) or of the freely definable functions ($f_1^{\#}(t_1)$, $f_2^{\#}(t_1)$, ..., $f_\mu^{\#}(t_1)$) of the signal ($s^{\#}(t_1)$) or of the signals ($s_1^{\#}(t_1)$, $s_2^{\#}(t_1)$, ..., $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then determining their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1$$

as well as means for subsequently determining

- the intersection points (ξ_{h2}) of the combination ($f\hat{}(t_2)$) or of the combinations ($f_1\hat{}(t_2)$, $f_2\hat{}(t_2)$, ..., $f_p\hat{}(t_2)$) of two or more signals ($s_1(t_2)$, $s_2(t_2)$, ..., $s_m(t_2)$) resp. of their transfer functions ($t_1(s_1(t_2))$, $t_2(s_2(t_2))$, ..., $t_m(s_m(t_2))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h2}) of the freely definable function ($f^{\#}(t_2)$) or of the freely definable functions ($f_1^{\#}(t_2)$, $f_2^{\#}(t_2)$, ..., $f_\mu^{\#}(t_2)$) of the signal ($s^{\#}(t_2)$) or of the signals ($s_1^{\#}(t_2)$, $s_2^{\#}(t_2)$, ..., $s_\Omega^{\#}(t_2)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, and then determining their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^*_2) of all intersection points (ξ_{h1}, ξ_{h2}

$$\xi^*_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / \left(k_1 + k_2 \right)$$

as well as means for determining whether the mean value (ξ°_{υ}) closest to (ξ^{*}_{2}), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^{*}_{2}, \xi^{*}_{2} + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and if this is the case, for selecting to be matched with (ξ°_{υ})

- the combination ($f\hat{}(t_{\upsilon})$) or combinations ($f_1\hat{}(t_{\upsilon})$ or $f_2\hat{}(t_{\upsilon})$ or ... or $f_p\hat{}(t_{\upsilon})$) or signals ($s_1(t_{\upsilon})$ or $s_2(t_{\upsilon})$ or ... or $s_m(t_{\upsilon})$) or the transfer functions ($t_1(s_1(t_{\upsilon}))$ or $t_2(s_2(t_{\upsilon}))$ or ... or $t_m(s_m(t_{\upsilon}))$), which can be represented on the real resp. complex number plane

or

- the freely definable function ($f^{\#}(t_{\upsilon})$) or freely definable functions ($f_1^{\#}(t_{\upsilon})$ or $f_2^{\#}(t_{\upsilon})$ or ... or $f_{\mu}^{\#}(t_{\upsilon})$) or signals ($s^{\#}(t_{\upsilon})$) or ($s_1^{\#}(t_{\upsilon})$ or $s_2^{\#}(t_{\upsilon})$ or ... or $s_{\Omega}^{\#}(t_{\upsilon})$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as for determining whether possibly two mean values ($\xi^{\circ}_{1}, \xi^{\circ}_{2}$) have the same distance to (ξ^{*}_{2}), as well as for selecting (ξ°_{1}) if this is the case, as well as determining whether the first mean value (ξ°_{1}) lies within the interval $[-\sigma + \xi^{*}_{2}, \xi^{*}_{2} + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and if this is the case, for selecting to be matched with (ξ°_{1})

- the combination ($f\hat{}(t_1)$) or combinations ($f_1\hat{}(t_1)$ or $f_2\hat{}(t_1)$ or ... or $f_p\hat{}(t_1)$) or signals ($s_1(t_1)$ or $s_2(t_1)$ or ... or $s_m(t_1)$) or the transfer functions ($t_1(s_1(t_1))$ or $t_2(s_2(t_1))$ or ... or $t_m(s_m(t_1))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_1)$) or freely definable functions ($f_1^{\#}(t_1)$ or $f_2^{\#}(t_1)$ or ... or $f_\mu^{\#}(t_1)$) or signals ($s^{\#}(t_1)$) or ($s_1^{\#}(t_1)$ or $s_2^{\#}(t_1)$ or ... or $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as means for determining

- the intersection points (ξ_{hq}) of the combination ($f\hat{}(t_q)$) or of the combinations ($f_1\hat{}(t_q)$, $f_2\hat{}(t_q)$, ..., $f_p\hat{}(t_q)$) of two or more signals ($s_1(t_q)$, $s_2(t_q)$, ..., $s_m(t_q)$) resp. of their transfer functions ($t_1(s_1(t_q))$, $t_2(s_2(t_q))$, ..., $t_m(s_m(t_q))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{hq}) of the freely definable function ($f^{\#}(t_q)$) or of the freely definable functions ($f_1^{\#}(t_q)$, $f_2^{\#}(t_q)$, ..., $f_\mu^{\#}(t_q)$) of the signal ($s^{\#}(t_q)$) or of the signals ($s_1^{\#}(t_q)$, $s_2^{\#}(t_q)$, ..., $s_\Omega^{\#}(t_q)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, this in a in a qth step, and then determining their mean value (

$$\xi^{\circ}_{q} := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^{*}_{q}) of all intersection points ($\xi_{h1,}, \xi_{h2}, \ldots, \xi_{hq}$

$$\xi^{*}_{q} := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / \left(k_1 + k_2 + \ldots k_q \right)$$

as well as means for determining whether the mean value (ξ°_{ϖ}) closest to (ξ^{*}_{q}), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^{*}_{q}, \xi^{*}_{q} + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and if this is the case for selecting to be matched with (ξ°_{ϖ})

- the combination ($f\hat{}(t_{\varpi})$) or combinations ($f_1\hat{}(t_{\varpi})$ or $f_2\hat{}(t_{\varpi})$ or ... or $f_p\hat{}(t_{\varpi})$) or signals ($s_1(t_{\varpi})$ or $s_2(t_{\varpi})$ or ... or $s_m(t_{\varpi})$) or the transfer functions ($t_1(s_1(t_{\varpi}))$ or $t_2(s_2(t_{\varpi}))$ or ... or

$t_m(s_m(t_\varpi)))$, which can be represented on the real resp. complex number plane,

or

- the freely definable function $(f^\#(t_\varpi))$ or freely definable functions $(f_1^\#(t_\varpi)$ or $f_2^\#(t_\varpi)$ or ... or $f_\mu^\#(t_\varpi))$ or signals $(s^\#(t_\varpi))$ or $(s_1^\#(t_\varpi)$ or $s_2^\#(t_\varpi)$ or ... or $s_\Omega^\#(t_\varpi))$, which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as means for determining whether for the same mean value of various

- combinations $(f\hat{}(t_s))$ or combinations $(f_1\hat{}(t_s)$, $f_2\hat{}(t_s)$, ..., $f_p\hat{}(t_s))$ or signals $(s_1(t_s)$, $s_2(t_s)$, ..., $s_m(t_s))$ or the transfer functions $(t_1(s_1(t_s))$, $t_2(s_2(t_s))$, ..., $t_m(s_m(t_s)))$, which can be represented on the real resp. complex number plane, $1 \leq s \leq q$,

or

- freely definable functions $(f^\#(t_\iota))$ or freely definable functions $(f_1^\#(t_\iota)$, $f_2^\#(t_\iota)$, ..., $f_\mu^\#(t_\iota))$ or signals $(s^\#(t_\iota))$ or signals $(s_1^\#(t_\iota)$, $s_2^\#(t_\iota)$, ..., $s_\Omega^\#(t_\iota))$, which can be represented on the real resp. complex number plane, $1 \leq \iota \leq q$,

or the properties or parameters of these signals or transfer functions or combinations or functions exist, and, if this is the case, for selecting those signals or those transfer functions or those combinations or those functions or those properties or parameters of these signals or transfer functions or combinations or functions, that so far appeared with the highest frequency, as well as for determining whether several signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions occur with the same frequency, and if this is the case for selecting those signals or those transfer functions or those combinations or those functions or those properties or parameters of these signals or transfer functions or combinations or functions that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, as well as means for determining whether this too applies to several signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions, and if this is the case, for selecting the first one that appears as well as for determining whether two mean values from $(\xi^{\circ}_1, \xi^{\circ}_2, ..., \xi^{\circ}_q)$ are close to (ξ^{*}_q), and if this is the case, for determining whether in a q-1th step one of the two mean values resp. their associated signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions have been selected, and if this is the case,

for retaining those signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for determining whether the thus selected mean value then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and if this is the case for selecting to be matched with this mean value the signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as

means for performing a $q+1^{th}$ step in the same form as represented for the qth step and for continuing the process and for determining whether one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached, and thus whether the process should be ended, and if this is the case, for ending the entire process.

23. Device according to one of the claims 13 to 22, characterized by means

- for determining the intersection points (ξ_{h1}) of the sum of the complex transfer functions ($f^*[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + 1)$) of the paired signal ($x(t_1)$, $y(t_1)$), which can be represented on the complex or real number plane, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1,

1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then determining their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1)}^{k_1} \xi_{h1} \right) / k_1 ;$$

- for subsequently determining the intersection points (ξ_{h2}) of the sum of the complex transfer functions ($f^*[x(t_2)] = [x(t_2)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_2)] = [y(t_2)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_2)$, $y(t_2)$), which can be represented on the complex or real number plane, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then determining their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1)}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^*_2) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^*_2 := \left(\sum_{h_1=1}^{k_1} \xi_{h1} + \sum_{h_2=1}^{k_2} \xi_{h2} \right) / \left(k_1 + k_2 \right)$$

as well as for determining whether the mean value (ξ°_υ) closest to (ξ^*_2), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, as well as for selecting the signals ($x(t_\upsilon)$ or $y(t_\upsilon)$) or transfer functions ($f^*[x(t_\upsilon)] = [x(t_\upsilon)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_\upsilon] = [y(t_\upsilon)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_υ), and, if this is the case, for ending the entire process, as well as for determining whether possibly two mean values (ξ°_1, ξ°_2) have the same distance to (ξ^*_2), and if this is the case, for selecting (ξ°_1) and for determining whether (ξ°_1) lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, as well as for selecting signals ($x(t_1)$ or $y(t_1)$) or transfer functions ($f^*[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties of parameters of these signals or transfer functions or sums to be matched with (ξ°_1), and if this is the case, for ending the entire process, as well as

- for determining the intersection points (ξ_{hq}) of the sum of the complex transfer functions ($f^*[x(t_q)] = [x(t_q)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_q)] = [y(t_q)/\sqrt{2}] * (1 +$

i)) of the paired signal ($x(t_q)$, $y(t_q)$), which can be represented on the complex or real number plane, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, this in a qth step, and then determining their mean value (

$$\xi^{\circ}_q := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^*_q) of all intersection points ($\xi_{h1,}$, ξ_{h2}, ..., ξ_{hq},

$$\xi^*_q := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / (k_1 + k_2 + \ldots k_q),$$

and for determining whether the mean value (ξ°_{ϖ}) closest to (ξ^*_q), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and for selecting signals ($x(t_\varpi)$ or $y(t_\varpi)$) or transfer functions ($f^*[x(t_\varpi)] = [x(t_\varpi)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_\varpi)] = [y(t_\varpi)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_{ϖ}), and, if this is the case, for ending the entire process, as well as for determining

whether in case of the same mean value, different signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, $1 \leq s \leq q$, exist and, if this is the case, for selecting those signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums that so far appeared with the highest frequency, as well as for determining whether several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums occur with the same frequency, and if this is the case, for selecting those signals ($x(t_s)$ or $y(t_s)$) or Transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums that exhibit the widest scattering, i.e. those for which the difference $d - c$ is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, as well as for determining whether this too applies to several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or

sums, and if this is the case for selecting the first one that appears resp. its signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, as well as for determining whether two mean values from ($\xi^\circ_1, \xi^\circ_2, \ldots, \xi^\circ_q$) are close to ($\xi^*_q$), and if this is the case for determining whether in a q-1th step one of the two mean values resp. their associated signals ($x(t)$ or $y(t)$) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected, and if this is the case, for retaining those signals ($x(t)$ or $y(t)$) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, as well as for determining whether the thus selected mean value then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, by selecting to be matched with this mean value the signals ($x(t)$ or $y(t)$) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, and for ending the entire process, as well as

- for performing a $q+1^{th}$ step in the same form as represented for the qth step and for continuing the process as well as for determining whether one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached and thus whether the process should be ended, and if this is the case, for ending the entire process;

as well as means

- for determining the intersection points (ξ_{h1}) of the sum of the complex transfer functions ($f^*[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_1)$, $y(t_1)$), which can be represented on the complex or real number plane, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then determining their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1 ;$$

- for subsequently determining the intersection points (ξ_{h2}) of the sum of the complex transfer functions ($f^*[x(t_2)] = [x(t_2)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_2)] =$

$[y(t_2)/\sqrt{2}] * (1 + i))$ of the paired signal $(x(t_2), y(t_2))$, which can be represented on the complex or real number plane, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, and then determining their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^*_2) of all intersection points $(\xi_{h1,}, \xi_{h2}$

$$\xi^*_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2),$$

as well as for determining whether the mean value (ξ°_{υ}) closest to (ξ^*_2), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, as well as for selecting the signals $(x(t_\upsilon)$ or $y(t_\upsilon))$ or transfer functions $(f^*[x(t_\upsilon)] = [x(t_\upsilon)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_\upsilon] = [y(t_\upsilon)/\sqrt{2}] * (1 + i))$ or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_{υ}), and if this is the case, for ending the entire process, as well as

- for determining the intersection points (ξ_{hq}) of the sum of the complex transfer functions ($f^*[x(t_q)] = [x(t_q)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_q)] = [y(t_q)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_q)$, $y(t_q)$), which can be represented on the complex or real number plane, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, this in a qth step, and then determining their mean value (

$$\xi^\circ_q := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^*_q) of all intersection points (ξ_{h1}, ξ_{h2}, ..., ξ_{hq},

$$\xi^*_q := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / (k_1 + k_2 + \ldots k_q),$$

as well as for determining whether the mean value (ξ°_ϖ) closest to (ξ^*_q), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, as well as for selecting signals ($x(t_\varpi)$ or $y(t_\varpi)$) or transfer functions ($f^*[x(t_\varpi)] = [x(t_\varpi)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_\varpi)] = [y(t_\varpi)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters

of these signals or transfer functions or sums to be matched with ($\xi^{\circ}\varpi$), and if this is the case, for ending the entire process, as well as for determining in case of the same mean value whether different signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, $1 \leq s \leq q$, exist, and if this is the case, for selecting those signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums that so far appeared with the highest frequency, as well as for determining whether several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums occur with the same frequency, and if this is the case for selecting those signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums that exhibit the widest scattering, i.e. those for which the difference $d - c$ is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, as well as for determining if this too applies to several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or

$g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i))$ or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, and if this is the case, for selecting the first one that appears resp. its signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i))$ or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, as well as for determining whether two mean values from ($\xi^\circ_1, \xi^\circ_2, ..., \xi^\circ_q$) are close to ($\xi^*_q$), and if this is the case, for determining whether in a q-1th step one of the two mean values resp. their associated signals ($x(t)$ or $y(t)$) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i))$ or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected, and if this is the case, for retaining those signals ($x(t)$ or $y(t)$) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i))$ or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, as well as for determining whether the thus selected mean value then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, by selecting to be matched with this mean value the signals ($x(t)$ or $y(t)$) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i))$ or sums of these transfer functions or specific properties or parameters

of these signals or transfer functions or sums, and for ending the entire process, as well as

- for performing a $q+1^{th}$ step in the same form as represented for the qth step is performed and for continuing the process, as well as for determining whether one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached and thus whether the process should be ended, and if this is the case, for ending the entire process.

24. Device according to one of the claims 13 to 23, with means for compression or data reduction or other selective evaluation.

Patent Claims

1. Method for evaluating

- a combination ($f\hat{}(t)$) or several combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) of two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) resp. of their transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), which can be represented on the real resp. complex number plane, wherein ($s_1(t)$) represents the function value of the first signal at the point in time t, ($s_2(t)$) represents the function value of the second signal at the point in time t, ..., ($s_m(t)$) represents the function value of the mth signal at the point in time t,

or

- a freely definable function ($f^{\#}(t)$) or of freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) of one signal ($s^{\#}(t)$) or of several signals ($s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$), which can be represented on the real resp. complex number plane, wherein ($s_1^{\#}(t)$) represents the function value of the first signal at the point in time t, ($s_2^{\#}(t)$) represents the function value of the second signal at the point in time t, ..., ($s_\Omega^{\#}(t)$) represents the function value of the Ωth signal at the point in time t,

characterized in that

- for one or several signal sections (t_1, t_2,, ..., t_χ) the invariants of one function or of several functions of the combination ($f\hat{}(t)$) or of the

combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) are determined,

or

- for one or several signal sections (t_1, t_2, ..., t_ς) the invariants of one function or of several functions of the freely definable function ($f^{\#}(t)$) or of the freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) are determined.

2. Method according to claim 1, characterized in that

- for a combination ($f\hat{}(t)$) or several combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) of two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) resp. of their transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), which can be represented on the real resp. complex number plane,

or

- for a freely definable function ($f^{\#}(t)$) or freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) of one signal ($s^{\#}(t)$) or of several signals ($s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$), which can be represented on the real resp. complex number plane,

- for one or several signal sections (t_1, $t_{2,}$, ..., t_χ) the invariants of one function or of several functions of the combination ($f\hat{}(t)$) or of the combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) are determined which, if necessary after appropriate

conversion, contain the function by means of an equation in the form of ($Av_1^2 + Bv_2^2 + Cv_3^2 + 2Fv_2v_3 + 2Gv_3v_1 + 2Hv_1v_2 = 0$),

or

- for one or several signal sections (t_1, t_2, ..., t_ς) the invariants of one function or of several functions of the freely definable function ($f^{\#}(t)$) or of the freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) are determined which, if necessary after appropriate conversion, contain the function by means of an equation in the form of ($Av_1^2 + Bv_2^2 + Cv_3^2 + 2Fv_2v_3 + 2Gv_3v_1 + 2Hv_1v_2 = 0$).

3. Method according to claim 1, characterized in that the invariants, if necessary after appropriate conversion, can be represented as linear combination of invariants resp. of vectors on one plane which, if necessary after appropriate conversion, is vertical to the real or complex number plane and crosses the latter, if necessary after rotation or appropriate conversion, in the diagonals of the 1st and 3rd quadrants.

4. Method according to claim 1, characterized in that it uses the intersection points of these invariants resp. vectors with the real or complex number plane, on which

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$)

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$),

if necessary after appropriate conversion, can be represented.

5. Method according to claim 1, characterized in that said signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$ resp. $s^{\#}(t)$ resp. $s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$ (resp. $x(t)$, $y(t)$ resp. $x_{\#}(t)$, $y_{\#}(t)$)) are audio signals.

6. Method according to claim 1, characterized in that on the basis of the determined invariants or, if necessary after appropriate conversion, of the intersection points of these invariants resp. vectors with the real or complex number plane, on which, if necessary after appropriate conversion, is/are located

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$)

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$),

or also on the basis of a selection of these invariants or intersection points, a selection according to statistical or other criteria is made.

7. Method according to claim 1, characterized in that

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) or the used two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) or the used transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), can be represented on the real resp. complex number plane,

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) or the used signal ($s^{\#}(t)$) or the used signals ($s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$), can be represented on the real resp. complex number plane,

can be normalized as regards their amplitude or other properties of theirs.

8. Method according to claim 7, characterized in that the normalization occurs on the basis of the signal level.

9. Method according to claim 7, characterized in that the normalization occurs on the basis of *mean-square energy*.

10. Method according to claim 1, characterized in that

- the intersection points (ξ_{h1}) of the combination ($f\hat{}(t_1)$) or of the combinations ($f_1\hat{}(t_1)$, $f_2\hat{}(t_1)$, ..., $f_p\hat{}(t_1)$) of two or more signals ($s_1(t_1)$, $s_2(t_1)$, ..., $s_m(t_1)$) resp. of their transfer functions ($t_1(s_1(t_1))$,

$t_2(s_2(t_1))$, ..., $t_m(s_m(t_1)))$, which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h1}) of the freely definable function ($f^{\#}(t_1)$) or of the freely definable functions ($f_1^{\#}(t_1)$, $f_2^{\#}(t_1)$, ..., $f_\mu^{\#}(t_1)$) of the signal ($s^{\#}(t_1)$) or of the signals ($s_1^{\#}(t_1)$, $s_2^{\#}(t_1)$, ..., $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane,

wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1$$

is calculated;

- the intersection points (ξ_{h2}) of the combination ($f\hat{}(t_2)$) or of the combinations ($f_1\hat{}(t_2)$, $f_2\hat{}(t_2)$, ..., $f_p\hat{}(t_2)$) of two or more signals ($s_1(t_2)$, $s_2(t_2)$, ..., $s_m(t_2)$) resp. of their transfer functions ($t_1(s_1(t_2))$,

$t_2(s_2(t_2))$, ..., $t_m(s_m(t_2))$, which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h2}) of the freely definable function ($f^{\#}(t_2)$) or of the freely definable functions ($f_1^{\#}(t_2)$, $f_2^{\#}(t_2)$, ..., $f_\mu^{\#}(t_2)$) of the signal ($s^{\#}(t_2)$) or of the signals ($s_1^{\#}(t_2)$, $s_2^{\#}(t_2)$, ..., $s_\Omega^{\#}(t_2)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2)$$

as well as the mean value (ξ^*_2) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^*_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

are calculated, and, insofar as the mean value (ξ°_υ) closest to (ξ^*_2), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$,

freely selectable by the user, by selecting to be matched with (ξ°_{υ})

- the combination ($f\hat{}(t_{\upsilon})$) or combinations ($f_1\hat{}(t_{\upsilon})$ or $f_2\hat{}(t_{\upsilon})$ or ... or $f_p\hat{}(t_{\upsilon})$) or signals ($s_1(t_{\upsilon})$ or $s_2(t_{\upsilon})$ or ... or $s_m(t_{\upsilon})$) or the transfer functions ($t_1(s_1(t_{\upsilon}))$ or $t_2(s_2(t_{\upsilon}))$ or ... or $t_m(s_m(t_{\upsilon}))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_{\upsilon})$) or freely definable functions ($f_1^{\#}(t_{\upsilon})$ or $f_2^{\#}(t_{\upsilon})$ or ... or $f_{\mu}^{\#}(t_{\upsilon})$) or signals ($s^{\#}(t_{\upsilon})$) or ($s_1^{\#}(t_{\upsilon})$ or $s_2^{\#}(t_{\upsilon})$ or ... or $s_{\Omega}^{\#}(t_{\upsilon})$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise, provided both mean values ($\xi^{\circ}_1, \xi^{\circ}_2$) have the same distance to (ξ^*_2), (ξ°_1) is selected and, provided the first mean value (ξ°_1) lies within the interval [$-\sigma + \xi^*_2, \xi^*_2 + \sigma$], by selecting to be matched with (ξ°_1)

- the combination ($f\hat{}(t_1)$) or combinations ($f_1\hat{}(t_1)$ or $f_2\hat{}(t_1)$ or ... or $f_p\hat{}(t_1)$) or signals ($s_1(t_1)$ or $s_2(t_1)$ or ... or $s_m(t_1)$) or the transfer functions $t_1(s_1(t_1))$ or $t_2(s_2(t_1))$ or ... or $t_m(s_m(t_1))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_1)$) or freely definable functions ($f_1^{\#}(t_1)$ or $f_2^{\#}(t_1)$ or ... or $f_\mu^{\#}(t_1)$) or signals ($s^{\#}(t_1)$) or ($s_1^{\#}(t_1)$ or $s_2^{\#}(t_1)$ or ... or $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise, in a qth step

- the intersection points (ξ_{hq}) of the combination ($f\hat{}(t_q)$) or of the combinations ($f_1\hat{}(t_q)$, $f_2\hat{}(t_q)$, ..., $f_p\hat{}(t_q)$) of two or more signals ($s_1(t_q)$, $s_2(t_q)$, ..., $s_m(t_q)$) resp. of their transfer functions ($t_1(s_1(t_q))$, $t_2(s_2(t_q))$, ..., $t_m(s_m(t_q))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{hq}) of the freely definable function ($f^{\#}(t_q)$) or of the freely definable functions ($f_1^{\#}(t_q)$, $f_2^{\#}(t_q)$, ..., $f_\mu^{\#}(t_q)$) of the signal ($s^{\#}(t_q)$) or of the signals ($s_1^{\#}(t_q)$, $s_2^{\#}(t_q)$, ..., $s_\Omega^{\#}(t_q)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_{q} := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^{*}_{q}) of all intersection points (ξ_{h1}, ξ_{h2}, ..., ξ_{hq}

$$\xi^{*}_{q} := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / \left(k_1 + k_2 + \ldots k_q \right)$$

are calculated, and, insofar as the mean value (ξ°_{ϖ}) closest to (ξ^{*}_{q}), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^{*}_{q}, \xi^{*}_{q} + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with (ξ°_{ϖ})

- the combination ($f\hat{}(t_{\varpi})$) or combinations ($f_1\hat{}(t_{\varpi})$ or $f_2\hat{}(t_{\varpi})$ or ... or $f_p\hat{}(t_{\varpi})$) or signals ($s_1(t_{\varpi})$ or $s_2(t_{\varpi})$ or ... or $s_m(t_{\varpi})$) or the transfer functions ($t_1(s_1(t_{\varpi}))$ or $t_2(s_2(t_{\varpi}))$ or ... or $t_m(s_m(t_{\varpi}))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_{\varpi})$) or freely definable functions ($f_1^{\#}(t_{\varpi})$ or $f_2^{\#}(t_{\varpi})$ or ... or $f_{\mu}^{\#}(t_{\varpi})$) or signals ($s^{\#}(t_{\varpi})$) or ($s_1^{\#}(t_{\varpi})$ or $s_2^{\#}(t_{\varpi})$ or

... or $s_{\Omega}^{\#}(t_{\varpi})$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise for the same mean value of various

- combination ($f\hat{}(t_s)$) or combinations ($f_1\hat{}(t_s)$, $f_2\hat{}(t_s)$, ..., $f_p\hat{}(t_s)$) or signals ($s_1(t_s)$, $s_2(t_s)$, ..., $s_m(t_s)$) or the transfer functions ($t_1(s_1(t_s))$, $t_2(s_2(t_s))$, ..., $t_m(s_m(t_s))$), which can be represented on the real resp. complex number plane, $1 \leq s \leq q$,

or

- freely definable function ($f^{\#}(t_\iota)$) or freely definable functions ($f_1^{\#}(t_\iota)$, $f_2^{\#}(t_\iota)$, ..., $f_\mu^{\#}(t_\iota)$) or signals ($s^{\#}(t_\iota)$) or Signale ($s_1^{\#}(t_\iota)$, $s_2^{\#}(t_\iota)$, ..., $s_\Omega^{\#}(t_\iota)$), which can be represented on the real resp. complex number plane, $1 \leq \iota \leq q$,

or the properties or parameters of these signals or transfer functions or combinations or functions, those signals or those transfer functions or those combinations or those functions or those properties or parameters are selected that so far appeared with the highest frequency, otherwise, insofar as several signals or transfer functions or combinations or functions or their properties or parameters occur with the same frequency, those are selected that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the

first index number of the optimization steps respectively undergone, otherwise if this too applies to several signals or transfer functions or combinations or functions or their properties or parameters, the first one that appears is selected, otherwise if two mean values from ($\xi^{\circ}_1, \xi^{\circ}_2, ..., \xi^{\circ}_q$) are close to ($\xi^{*}_q$), insofar as in a q-1th step one of the two mean values resp. their associated signals or transfer functions or combinations or functions or their properties or parameters is selected, the very same ones are retained and, insofar as the selected mean value then lies within the interval [$-\sigma + \xi^{*}_q, \xi^{*}_q + \sigma$], where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with this mean value the signals or transfer functions or combinations or functions or their properties or parameters, the entire process is ended, otherwise a q+1th step in the same form as represented for the qth step is performed and the process is repeated as long as necessary until one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached,

or in that

- the intersection points (ξ_{h1}) of the combination ($f\hat{}(t_1)$) or of the combinations ($f_1\hat{}(t_1)$, $f_2\hat{}(t_1)$, ..., $f_p\hat{}(t_1)$) of two or more signals ($s_1(t_1)$, $s_2(t_1)$, ..., $s_m(t_1)$) resp. of their transfer functions ($t_1(s_1(t_1))$, $t_2(s_2(t_1))$, ..., $t_m(s_m(t_1))$), which can be represented on the real resp. complex number plane

or

- the intersection points (ξ_{h1}) of the freely definable function ($f^{\#}(t_1)$) or of the freely definable functions ($f_1^{\#}(t_1)$, $f_2^{\#}(t_1)$, ..., $f_\mu^{\#}(t_1)$) of the signal ($s^{\#}(t_1)$) or of the signals ($s_1^{\#}(t_1)$, $s_2^{\#}(t_1)$, ..., $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1)$$

is calculated;

- the intersection points (ξ_{h2}) of the combination ($f\hat{}(t_2)$) or of the combinations ($f_1\hat{}(t_2)$, $f_2\hat{}(t_2)$, ..., $f_p\hat{}(t_2)$) of two or more signals ($s_1(t_2)$, $s_2(t_2)$, ..., $s_m(t_2)$) resp. of their transfer functions ($t_1(s_1(t_2))$, $t_2(s_2(t_2))$, ..., $t_m(s_m(t_2))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h2}) of the freely definable function ($f^{\#}(t_2)$) or of the freely definable functions ($f_1^{\#}(t_2)$, $f_2^{\#}(t_2)$, ..., $f_\mu^{\#}(t_2)$) des Signals ($s^{\#}(t_2)$) of the signal ($s^{\#}(t_2)$) or of the signals ($s_1^{\#}(t_2)$, $s_2^{\#}(t_2)$, ..., $s_\omega^{\#}(t_2)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, and then their mean value (

$$\xi^\circ_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^*_2) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^*_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

are calculated, and, insofar as the mean value (ξ°_υ) closest to (ξ^*_2), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with (ξ°_υ)

- the combination ($f\hat{}(t_\upsilon)$) or combinations ($f_1\hat{}(t_\upsilon)$ or $f_2\hat{}(t_\upsilon)$ or ... or $f_p\hat{}(t_\upsilon)$) or signals ($s_1(t_\upsilon)$ or $s_2(t_\upsilon)$ or ... or $s_m(t_\upsilon)$) or the transfer functions ($t_1(s_1(t_\upsilon))$ or $t_2(s_2(t_\upsilon))$ or ... or $t_m(s_m(t_\upsilon))$), which can be represented on the real resp. complex number plane

or

- the freely definable function ($f^{\#}(t_\upsilon)$) or freely definable functions ($f_1^{\#}(t_\upsilon)$ or $f_2^{\#}(t_\upsilon)$ or ... or $f_\mu^{\#}(t_\upsilon)$) or signals ($s^{\#}(t_\upsilon)$) or ($s_1^{\#}(t_\upsilon)$ or $s_2^{\#}(t_\upsilon)$ or ... or $s_\Omega^{\#}(t_\upsilon)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise, provided both mean values (ξ°_1, ξ°_2) have the same distance to (ξ^*_2), (ξ°_1) is selected and, provided the first mean value (ξ°_1) lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, by selecting to be matched with (ξ°_1)

- the combination ($f\hat{}(t_1)$) or combinations ($f_1\hat{}(t_1)$ or $f_2\hat{}(t_1)$ or ... or $f_p\hat{}(t_1)$) or signals ($s_1(t_1)$ or $s_2(t_1)$ or ... or $s_m(t_1)$) or the transfer functions ($t_1(s_1(t_1))$ or $t_2(s_2(t_1))$ or ... or $t_m(s_m(t_1))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_1)$) or freely definable functions ($f_1^{\#}(t_1)$ or $f_2^{\#}(t_1)$ or ... or $f_\mu^{\#}(t_1)$) or signals ($s^{\#}(t_1)$) or ($s_1^{\#}(t_1)$ or $s_2^{\#}(t_1)$ or ...

or $s_{\Omega}^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise in a qth step

- the intersection points (ξ_{hq}) of the combination ($f\hat{}(t_q)$) or of the combinations ($f_1\hat{}(t_q)$, $f_2\hat{}(t_q)$, ..., $f_p\hat{}(t_q)$) of two or more signals ($s_1(t_q)$, $s_2(t_q)$, ..., $s_m(t_q)$) resp. of their transfer functions ($t_1(s_1(t_q))$, $t_2(s_2(t_q))$, ..., $t_m(s_m(t_q))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{hq}) of the freely definable function ($f^{\#}(t_q)$) or of the freely definable functions ($f_1^{\#}(t_q)$, $f_2^{\#}(t_q)$, ..., $f_{\mu}^{\#}(t_q)$) of the signal ($s^{\#}(t_q)$) or of the signals ($s_1^{\#}(t_q)$, $s_2^{\#}(t_q)$, ..., $s_{\Omega}^{\#}(t_q)$), which can be represented on the real resp. complex number plane,

are, if necessary after appropriate conversion, determined by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_{q} := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^*_q) of all intersection points (ξ_{h1}, ξ_{h2}, ..., ξ_{hq}

$$\xi^*_q := \left(\sum_{h_1=1}^{k_1} \xi_{h1} + \sum_{h_2=1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q=1}^{k_q} \xi_{hq} \right) / \left(k_1 + k_2 + \ldots k_q \right)$$

are calculated, and, insofar as the mean value (ξ°_ϖ) closest to (ξ^*_q), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with (ξ°_ϖ)

- the combination ($f\hat{}(t_\varpi)$) or combinations ($f_1\hat{}(t_\varpi)$ or $f_2\hat{}(t_\varpi)$ or ... or $f_p\hat{}(t_\varpi)$) or signals ($s_1(t_\varpi)$ or $s_2(t_\varpi)$ or ... or $s_m(t_\varpi)$) or the transfer functions ($t_1(s_1(t_\varpi))$ or $t_2(s_2(t_\varpi))$ or ... or $t_m(s_m(t_\varpi))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^\#(t_\varpi)$) or freely definable functions ($f_1^\#(t_\varpi)$ or $f_2^\#(t_\varpi)$ or ... or $f_\mu^\#(t_\varpi)$) or signals ($s^\#(t_\varpi)$) or ($s_1^\#(t_\varpi)$ or $s_2^\#(t_\varpi)$ or ... or $s_\Omega^\#(t_\varpi)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, the entire process is ended, otherwise for the same mean value of various

- combination ($f\hat{}(t_s)$) or combinations ($f_1\hat{}(t_s)$, $f_2\hat{}(t_s)$, ..., $f_p\hat{}(t_s)$) or signals ($s_1(t_s)$, $s_2(t_s)$, ..., $s_m(t_s)$) or the transfer functions ($t_1(s_1(t_s))$, $t_2(s_2(t_s))$, ..., $t_m(s_m(t_s))$), which can be represented on the real resp. complex number plane, $1 \leq s \leq q$,

or

- freely definable function ($f^{\#}(t_\iota)$) or freely definable functions ($f_1^{\#}(t_\iota)$, $f_2^{\#}(t_\iota)$, ..., $f_\mu^{\#}(t_\iota)$) or signals ($s^{\#}(t_\iota)$) or signals ($s_1^{\#}(t_\iota)$, $s_2^{\#}(t_\iota)$, ..., $s_\Omega^{\#}(t_\iota)$), which can be represented on the real resp. complex number plane, $1 \leq \iota \leq q$,

or the properties or parameters of these signals or transfer functions or combinations or functions, those signals or those transfer functions or those combinations or those functions or those properties or parameters are selected that so far appeared with the highest frequency, otherwise, insofar as several signals or transfer functions or combinations or functions or their properties or parameters occur with the same frequency, those are selected that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, otherwise if this too applies to several signals or transfer functions or combinations or functions or their properties or

parameters, the first one that appears is selected, otherwise if two mean values from ($\xi^{\circ}_1, \xi^{\circ}_2, ..., \xi^{\circ}_q$) are close to ($\xi^{*}_q$), insofar as in a q-1th step one of the two mean values resp. their associated signals or transfer functions or combinations or functions or their properties or parameters is selected, the very same ones are retained and, insofar as the selected mean value then lies within the interval [$-\sigma + \xi^{*}_q, \xi^{*}_q + \sigma$], where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with this mean value the signals or transfer functions or combinations or functions or their properties or parameters, the entire process is ended, otherwise a q+1th step in the same form as represented for the qth step is performed and the process is repeated as long as necessary until one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached.

11. Method according to claim 1, characterized in that

- the intersection points (ξ_{h1}) of the sum of the complex transfer functions ($f^{*}[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ and $g^{*}[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_1)$, $y(t_1)$), which can be represented on the complex or real number plane are determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the

complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1$$

is calculated;

- the intersection points (ξ_{h2}) of the sum of the complex transfer functions ($f^*[x(t_2)] = [x(t_2)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_2)] = [y(t_2)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_2)$, $y(t_2)$), which can be represented on the complex or real number plane, are determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^*_2) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^*_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

are calculated, and, insofar as the mean value (ξ°_{υ}) closest to (ξ^*_2), where υ is equal to 1 or 2, then lies

within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting the signals ($x(t_\upsilon)$ or $y(t_\upsilon)$) or transfer functions ($f^*[x(t_\upsilon)] = [x(t_\upsilon)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_\upsilon] = [y(t_\upsilon)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_υ), the entire process is ended, otherwise, provided both mean values (ξ°_1, ξ°_2) have the same distance to (ξ^*_2), (ξ°_1) is selected and, provided (ξ°_1) lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, by selecting signals ($x(t_1)$ or $y(t_1)$) or transfer functions ($f^*[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties of parameters of these signals or transfer functions or sums to be matched with (ξ°_1), the entire process is ended, otherwise

- in a qth step, the intersection points (ξ_{hq}) of the sum of the complex transfer functions ($f^*[x(t_q)] = [x(t_q)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_q)] = [y(t_q)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_q)$, $y(t_q)$), which can be represented on the complex or real number plane, are determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_{q} := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^{*}_{q}) of all intersection points (ξ_{h1}, ξ_{h2}, ..., ξ_{hq},

$$\xi^{*}_{q} := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / (k_1 + k_2 + \ldots k_q),$$

are calculated, and, insofar as the mean value (ξ°_{ϖ}) closest to (ξ^{*}_{q}), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^{*}_{q}, \xi^{*}_{q} + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting signals ($x(t_\varpi)$ or $y(t_\varpi)$) or transfer functions ($f^{*}[x(t_\varpi)] = [x(t_\varpi)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_\varpi)] = [y(t_\varpi)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_{ϖ}), the entire process is ended, otherwise in case of the same mean value of different signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, $1 \leq s \leq q$, those signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer

functions or sums are selected that so far appeared with the highest frequency, otherwise, insofar as as several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums occur with the same frequency, those signals ($x(t_s)$ or $y(t_s)$) or Transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, otherwise if this too applies to several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, the first one that appears resp. its signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected, otherwise, if two mean values from ($\xi^\circ_1, \xi^\circ_2, \ldots, \xi^\circ_q$) are close to ($\xi^*_q$), insofar as in a q-1th step one of the two mean values resp. their associated signals ($x(t)$ or $y(t)$) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific

properties or parameters of these signals or transfer functions or sums are selected, the very same ones are retained, and, insofar as the selected mean value then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with this mean value the signals (x(t) or y(t)) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, the entire process is ended, otherwise

- a $q+1^{th}$ step in the same form as represented for the qth step is performed and the process is repeated as long as necessary until one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached,

or that

- the intersection points (ξ_{h1}) of the sum of the complex transfer functions ($f^*[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_1)$, $y(t_1)$), which can be represented on the complex or real number plane, is determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real

number plane is identical with the imaginary axis of the complex number plane, and then their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1$$

is calculated;

- the intersection points (ξ_{h2}) of the sum of the complex transfer functions ($f^*[x(t_2)] = [x(t_2)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_2)] = [y(t_2)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_2)$, $y(t_2)$), which can be represented on the complex or real number plane, are determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, and then their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^*_2) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^*_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

are calculated, and, insofar as the mean value (ξ°_{υ}) closest to (ξ^*_2), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ

represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting the signals ($x(t_\upsilon)$ or $y(t_\upsilon)$) or transfer functions ($f^*[x(t_\upsilon)] = [x(t_\upsilon)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_\upsilon] = [y(t_\upsilon)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with ($\xi°_\upsilon$), the entire process is ended, otherwise

- in a qth step, the intersection points (ξ_{hq}) of the sum of the complex transfer functions ($f^*[x(t_q)] = [x(t_q)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_q)] = [y(t_q)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_q)$, $y(t_q)$), which can be represented on the complex or real number plane, are determined, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then their mean value (

$$\xi°_q := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^*_q) of all intersection points (ξ_{h1}, ξ_{h2}, ..., ξ_{hq},

$$\xi^*_q := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / (k_1 + k_2 + \ldots k_q),$$

are calculated, and, insofar as the mean value (ξ°_{ϖ}) closest to (ξ^{*}_{q}), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^{*}_{q}, \xi^{*}_{q} + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting signals ($x(t_{\varpi})$ or $y(t_{\varpi})$) or transfer functions ($f^{*}[x(t_{\varpi})] = [x(t_{\varpi})/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_{\varpi})] = [y(t_{\varpi})/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_{ϖ}), the entire process is ended, otherwise in case of the same mean value of different signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, $1 \leq s \leq q$, those signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected that so far appeared with the highest frequency, otherwise, insofar as as several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums occur with the same frequency, those signals ($x(t_s)$ or $y(t_s)$) or Transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or or sums of these

transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, otherwise if this too applies to several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, the first one that appears resp. its signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected, otherwise, if two mean values from $(\xi^\circ_1, \xi^\circ_2, ..., \xi^\circ_q)$ are close to (ξ^*_q), insofar as in a q-1th step one of the two mean values resp. their associated signals (x(t) or y(t)) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected, the very same ones are retained, and, insofar as the selected mean value then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, by selecting to be matched with this mean value the signals (x(t) or y(t)) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters

of these signals or transfer functions or sums, the entire process is ended, otherwise

- a $q+1^{th}$ step in the same form as represented for the qth step is performed and the process is repeated as long as necessary until one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached.

12. Method according to claim 1, characterized by the additional use of compression methods or data reduction methods or other selective evaluation methods.

13. Device with

- means for evaluating a combination ($f\hat{}(t)$) or several combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) of two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) resp. of their transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), which can be represented on the real resp. complex number plane, wherein ($s_1(t)$) represents the function value of the first signal at the point in time t, ($s_2(t)$) represents the function value of the second signal at the point in time t, ..., ($s_m(t)$) represents the function value of the mth signal at the point in time t,

or

- means for evaluating a freely definable function ($f^{\#}(t)$) or freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) of one signal ($s^{\#}(t)$) or of several signals ($s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$), which can be

represented on the real resp. complex number plane, wherein ($s_1^{\#}(t)$) represents the function value of the first signal at the point in time t, ($s_2^{\#}(t)$) represents the function value of the second signal at the point in time t, ..., ($s_\Omega^{\#}(t)$) represents the function value of the Ωth signal at the point in time t,

characterized by

- means for determining the invariants of one function or of several functions of the combination ($f\hat{}(t)$) or of the combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) for one or several signal sections (t_1, t_2, ..., t_χ),

or

- means for determining the invariants of one function or of several functions of the freely definable function ($f^{\#}(t)$) or of the freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) for one or several signal sections (t_1, t_2, ..., t_ς).

14. Device according to claim 13, with

- means for evaluating a combination ($f\hat{}(t)$) or several combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) of two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) resp. of their transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), which can be represented on the real resp. complex number plane,

or

- means for evaluating a freely definable function ($f^{\#}(t)$) or freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) of one signal ($s^{\#}(t)$) or of several signals ($s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$), which can be represented on the real resp. complex number plane,

characterized in that

- means for determining the invariants of one function or of several functions which, if necessary after appropriate conversion, use the function by means of an equation in the form of ($Av_1^2 + Bv_2^2 + Cv_3^2 + 2Fv_2v_3 + 2Gv_3v_1 + 2Hv_1v_2 = 0$), of the combination ($f\hat{}(t)$) or of the combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) for one or several signal sections (t_1, t_2, ..., t_χ),

or

- means for determining the invariants of one function or of several functions which, if necessary after appropriate conversion, use the function by means of an equation in the form of ($Av_1^2 + Bv_2^2 + Cv_3^2 + 2Fv_2v_3 + 2Gv_3v_1 + 2Hv_1v_2 = 0$), of the freely definable function ($f^{\#}(t)$) or of the freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) for one or several signal sections (t_1, t_2, ..., t_ς).

15. Device according to claim 13, characterized in that the invariants, if necessary after appropriate conversion, can be represented as linear combination of invariants resp. of vectors on one plane which, if necessary after appropriate conversion, is vertical to the real or complex number plane and crosses the latter, if necessary after rotation or appropriate

conversion, in the diagonals of the 1st and 3rd quadrants.

16. Device according to claim 13, characterized by means which use the intersection points of these invariants resp. vectors with the real or complex number plane, on which

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$)

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$),

if necessary after appropriate conversion, can be represented.

17. Device according to claim 13, characterized in that said signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$ resp. $s^{\#}(t)$ resp. $s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$ (resp. $x(t)$, $y(t)$ resp. $x_{\#}(t)$, $y_{\#}(t)$)) are audio signals.

18. Device according to claim 13, characterized by means for selecting, according to statistical and other criteria, on the basis of the determined invariants or, if necessary after appropriate conversion, the intersection points of these invariants resp. vectors with the real or complex number plane, on which

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$)

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$),

is/are located, if necessary after appropriate conversion, or also on the basis of a selection of these invariants or intersection points.

19. Device according to claim 13, characterized by means for normalization as regards the amplitude or other properties of

- the analyzed combination ($f\hat{}(t)$) or the analyzed combinations ($f_1\hat{}(t)$, $f_2\hat{}(t)$, ..., $f_p\hat{}(t)$) or the used two or more signals ($s_1(t)$, $s_2(t)$, ..., $s_m(t)$) or the used transfer functions ($t_1(s_1(t))$, $t_2(s_2(t))$, ..., $t_m(s_m(t))$), which can be represented on the real resp. complex number plane,

or

- the analyzed, freely definable function ($f^{\#}(t)$) or the analyzed, freely definable functions ($f_1^{\#}(t)$, $f_2^{\#}(t)$, ..., $f_\mu^{\#}(t)$) or the used signal ($s^{\#}(t)$) or the used signals ($s_1^{\#}(t)$, $s_2^{\#}(t)$, ..., $s_\Omega^{\#}(t)$), which can be represented on the real resp. complex number plane.

20. Device according to claim 19, characterized by means for normalization on the basis of the signal level.

21. Device according to claim 19, characterized by means for normalization on the basis of *mean-square energy.*

22. Device according to claim 13, characterized by means for determining

- the intersection points (ξ_{h1}) of the combination ($f\hat{}(t_1)$) or of the combinations ($f_1\hat{}(t_1)$, $f_2\hat{}(t_1)$, ..., $f_p\hat{}(t_1)$) of two or more signals ($s_1(t_1)$, $s_2(t_1)$, ..., $s_m(t_1)$) resp. of their transfer functions ($t_1(s_1(t_1))$, $t_2(s_2(t_1))$, ..., $t_m(s_m(t_1))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h1}) of the freely definable function ($f^{\#}(t_1)$) or of the freely definable functions ($f_1^{\#}(t_1)$, $f_2^{\#}(t_1)$, ..., $f_\mu^{\#}(t_1)$) of the signal ($s^{\#}(t_1)$) or of the signals ($s_1^{\#}(t_1)$, $s_2^{\#}(t_1)$, ..., $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then determining their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1 ;$$

as well as for subsequently determining

- the intersection points (ξ_{h2}) of the combination ($f\hat{}(t_2)$) or of the combinations ($f_1\hat{}(t_2)$, $f_2\hat{}(t_2)$, ..., $f_p\hat{}(t_2)$) of two or more signals ($s_1(t_2)$, $s_2(t_2)$, ..., $s_m(t_2)$) resp. of their transfer functions ($t_1(s_1(t_2))$, $t_2(s_2(t_2))$, ..., $t_m(s_m(t_2))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h2}) of the freely definable function ($f^{\#}(t_2)$) or of the freely definable functions ($f_1^{\#}(t_2)$, $f_2^{\#}(t_2)$, ..., $f_\mu^{\#}(t_2)$) of the signal ($s^{\#}(t_2)$) or of the signals ($s_1^{\#}(t_2)$, $s_2^{\#}(t_2)$, ..., $s_\Omega^{\#}(t_2)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then determining their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^*_2) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^*_2 := \left(\sum_{h_1=1}^{k_1} \xi_{h1} + \sum_{h_2=1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

as well as means for determining whether the mean value (ξ°_υ) closest to (ξ^*_2), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, as well as, if this is the case, for selecting to be matched with (ξ°_υ)

- the combination ($f\hat{}(t_\upsilon)$) or combinations ($f_1\hat{}(t_\upsilon)$ or $f_2\hat{}(t_\upsilon)$ or ... or $f_p\hat{}(t_\upsilon)$) or signals ($s_1(t_\upsilon)$ or $s_2(t_\upsilon)$ or ... or $s_m(t_\upsilon)$) or the transfer functions ($t_1(s_1(t_\upsilon))$ or $t_2(s_2(t_\upsilon))$ or ... or $t_m(s_m(t_\upsilon))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^\#(t_\upsilon)$) or freely definable functions ($f_1^\#(t_\upsilon)$ or $f_2^\#(t_\upsilon)$ or ... or $f_\mu^\#(t_\upsilon)$) or signals ($s^\#(t_\upsilon)$) or ($s_1^\#(t_\upsilon)$ or $s_2^\#(t_\upsilon)$ or ... or $s_\Omega^\#(t_\upsilon)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as for determining whether possibly two mean values (ξ°_1, ξ°_2) have the same distance to (ξ^*_2), (ξ°_1), and if this is the case, for selecting (ξ°_1), as well as for determining whether the first mean value

(ξ°_1) lies within the interval [$-\sigma + \xi^{*}_2$, $\xi^{*}_2 + \sigma$],], where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, as well as, if this is the case, for selecting to be matched with (ξ°_{υ}) (ξ°_1)

- the combination ($f\hat{}(t_1)$) or combinations ($f_1\hat{}(t_1)$ or $f_2\hat{}(t_1)$ or ... or $f_p\hat{}(t_1)$) or signals ($s_1(t_1)$ or $s_2(t_1)$ or ... or $s_m(t_1)$) or the transfer functions $t_1(s_1(t_1))$ or $t_2(s_2(t_1))$ or ... or $t_m(s_m(t_1))$, which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_1)$) or freely definable functions ($f_1^{\#}(t_1)$ or $f_2^{\#}(t_1)$ or ... or $f_{\mu}^{\#}(t_1)$) or signals ($s^{\#}(t_1)$) or ($s_1^{\#}(t_1)$ or $s_2^{\#}(t_1)$ or ... or $s_{\Omega}^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as means for determining

- the intersection points (ξ_{hq}) of the combination ($f\hat{}(t_q)$) or of the combinations ($f_1\hat{}(t_q)$, $f_2\hat{}(t_q)$, ..., $f_p\hat{}(t_q)$) of two or more signals ($s_1(t_q)$, $s_2(t_q)$, ..., $s_m(t_q)$) resp. of their transfer functions ($t_1(s_1(t_q))$, $t_2(s_2(t_q))$, ..., $t_m(s_m(t_q))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{hq}) of the freely definable function ($f^{\#}(t_q)$) or of the freely definable functions ($f_1^{\#}(t_q)$, $f_2^{\#}(t_q)$, ..., $f_\mu^{\#}(t_q)$) of the signal ($s^{\#}(t_q)$) or of the signals ($s_1^{\#}(t_q)$, $s_2^{\#}(t_q)$, ..., $s_\Omega^{\#}(t_q)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, this in a qth step, and then determining their mean value (

$$\xi^{\circ}_q := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^{*}_q) of all intersection points (ξ_{h1}, ξ_{h2}, ..., ξ_{hq}

$$\xi^{*}_q := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / (k_1 + k_2 + \ldots k_q)$$

as well as means for determining whether the mean value (ξ°_{ϖ}) closest to (ξ^{*}_q), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^{*}_q, \xi^{*}_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and if this is the case, for selecting to be matched with (ξ°_{ϖ})

- the combination ($f\hat{}(t_{\varpi})$) or combinations ($f_1\hat{}(t_{\varpi})$ or $f_2\hat{}(t_{\varpi})$ or ... or $f_p\hat{}(t_{\varpi})$) or signals ($s_1(t_{\varpi})$ or $s_2(t_{\varpi})$ or ... or $s_m(t_{\varpi})$) or transfer functions ($t_1(s_1(t_{\varpi}))$ or $t_2(s_2(t_{\varpi}))$ or ... or $t_m(s_m(t_{\varpi}))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_{\varpi})$) or freely definable functions ($f_1^{\#}(t_{\varpi})$ or $f_2^{\#}(t_{\varpi})$ or ... or $f_{\mu}^{\#}(t_{\varpi})$) or signals ($s^{\#}(t_{\varpi})$) or ($s_1^{\#}(t_{\varpi})$ or $s_2^{\#}(t_{\varpi})$ or ... or $s_{\Omega}^{\#}(t_{\varpi})$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as means for determining if for the same mean value, various

- combinations ($f\hat{}(t_s)$) or combinations ($f_1\hat{}(t_s)$, $f_2\hat{}(t_s)$, ..., $f_p\hat{}(t_s)$) or signals ($s_1(t_s)$, $s_2(t_s)$, ..., $s_m(t_s)$) or transfer functions ($t_1(s_1(t_s))$, $t_2(s_2(t_s))$, ..., $t_m(s_m(t_s))$), which can be represented on the real resp. complex number plane, $1 \leq s \leq q$,

or

- freely definable functions ($f^{\#}(t_{\iota})$) or freely definable functions ($f_1^{\#}(t_{\iota})$, $f_2^{\#}(t_{\iota})$, ..., $f_{\mu}^{\#}(t_{\iota})$) or

signals ($s^{\#}(t_\iota)$) or signals ($s_1^{\#}(t_\iota)$, $s_2^{\#}(t_\iota)$, ..., $s_\Omega^{\#}(t_\iota)$), which can be represented on the real resp. complex number plane, $1 \leq \iota \leq q$,

or the properties or parameters of these signals or transfer functions or combinations or functions exist, and, if this is the case, for selecting those signals or those transfer functions or those combinations or those functions or those properties or parameters of these signals or transfer functions or combinations or functions, that so far appeared with the highest frequency, as well as for determining whether several signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions occur with the same frequency, and if this is the case for selecting those signals or those transfer functions or those combinations or those functions or those properties or parameters of these signals or transfer functions or combinations or functions that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, as well as means for determining whether this too applies to several signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions, and if this is the case, for selecting the first one that appears as well as for determining whether two mean values from ($\xi^\circ_1, \xi^\circ_2, ..., \xi^\circ_q$) are close to ($\xi^*_q$), and if this is the case, for determining whether in a q-1th step one of the two mean values resp. their associated

signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions have been selected, and if this is the case, for retaining those signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for determining whether the thus selected mean value then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and if this is the case for selecting to be matched with this mean value the signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as

means for performing a $q+1^{th}$ step in the same form as represented for the qth step and for continuing the process and for determining whether one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached, and thus whether the process should be ended, and if this is the case, for ending the entire process;

or also means for determining

- the intersection points (ξ_{h1}) of the combination ($f\hat{}(t_1)$) or of the combinations ($f_1\hat{}(t_1)$, $f_2\hat{}(t_1)$, ..., $f_p\hat{}(t_1)$) of two or more signals ($s_1(t_1)$, $s_2(t_1)$, ..., $s_m(t_1)$) resp. of their transfer functions ($t_1(s_1(t_1))$,

$t_2(s_2(t_1))$, ..., $t_m(s_m(t_1)))$, which can be represented on the real resp. complex number plane

or

- the intersection points (ξ_{h1}) of the freely definable function ($f^{\#}(t_1)$) or of the freely definable functions ($f_1^{\#}(t_1)$, $f_2^{\#}(t_1)$, ..., $f_\mu^{\#}(t_1)$) of the signal ($s^{\#}(t_1)$) or of the signals ($s_1^{\#}(t_1)$, $s_2^{\#}(t_1)$, ..., $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then determining their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1$$

as well as means for subsequently determining

- the intersection points (ξ_{h2}) of the combination ($f\hat{}(t_2)$) or of the combinations ($f_1\hat{}(t_2)$, $f_2\hat{}(t_2)$, ..., $f_p\hat{}(t_2)$) of two or more signals ($s_1(t_2)$, $s_2(t_2)$, ..., $s_m(t_2)$) resp. of their transfer functions ($t_1(s_1(t_2))$,

$t_2(s_2(t_2))$, ..., $t_m(s_m(t_2))$, which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{h2}) of the freely definable function ($f^{\#}(t_2)$) or of the freely definable functions ($f_1^{\#}(t_2)$, $f_2^{\#}(t_2)$, ..., $f_\mu^{\#}(t_2)$) of the signal ($s^{\#}(t_2)$) or of the signals ($s_1^{\#}(t_2)$, $s_2^{\#}(t_2)$, ..., $s_\Omega^{\#}(t_2)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, and then determining their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^*_2) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^*_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

as well as means for determining whether the mean value (ξ°_υ) closest to (ξ^*_2), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^*_2, \xi^*_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$,

freely selectable by the user also by a means, and if this is the case, for selecting to be matched with (ξ°_{υ})

- the combination ($f\hat{}(t_{\upsilon})$) or combinations ($f_1\hat{}(t_{\upsilon})$ or $f_2\hat{}(t_{\upsilon})$ or ... or $f_p\hat{}(t_{\upsilon})$) or signals ($s_1(t_{\upsilon})$ or $s_2(t_{\upsilon})$ or ... or $s_m(t_{\upsilon})$) or the transfer functions ($t_1(s_1(t_{\upsilon}))$ or $t_2(s_2(t_{\upsilon}))$ or ... or $t_m(s_m(t_{\upsilon}))$), which can be represented on the real resp. complex number plane

or

- the freely definable function ($f^{\#}(t_{\upsilon})$) or freely definable functions ($f_1^{\#}(t_{\upsilon})$ or $f_2^{\#}(t_{\upsilon})$ or ... or $f_{\mu}^{\#}(t_{\upsilon})$) or signals ($s^{\#}(t_{\upsilon})$) or ($s_1^{\#}(t_{\upsilon})$ or $s_2^{\#}(t_{\upsilon})$ or ... or $s_{\Omega}^{\#}(t_{\upsilon})$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as for determining whether possibly two mean values ($\xi^{\circ}_1, \xi^{\circ}_2$) have the same distance to (ξ^{*}_2), as well as for selecting (ξ°_1) if this is the case, as well as determining whether the first mean value (ξ°_1) lies within the interval $[-\sigma + \xi^{*}_2, \xi^{*}_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and if this is the case, for selecting to be matched with (ξ°_1)

- the combination ($f\hat{}(t_1)$) or combinations ($f_1\hat{}(t_1)$ or $f_2\hat{}(t_1)$ or ... or $f_p\hat{}(t_1)$) or signals ($s_1(t_1)$ or $s_2(t_1)$ or ... or $s_m(t_1)$) or the transfer functions

($t_1(s_1(t_1))$ or $t_2(s_2(t_1))$ or ... or $t_m(s_m(t_1))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_1)$) or freely definable functions ($f_1^{\#}(t_1)$ or $f_2^{\#}(t_1)$ or ... or $f_\mu^{\#}(t_1)$) or signals ($s^{\#}(t_1)$) or ($s_1^{\#}(t_1)$ or $s_2^{\#}(t_1)$ or ... or $s_\Omega^{\#}(t_1)$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as means for determining

- the intersection points (ξ_{hq}) of the combination ($f\hat{}(t_q)$) or of the combinations ($f_1\hat{}(t_q)$, $f_2\hat{}(t_q)$, ..., $f_p\hat{}(t_q)$) of two or more signals ($s_1(t_q)$, $s_2(t_q)$, ..., $s_m(t_q)$) resp. of their transfer functions ($t_1(s_1(t_q))$, $t_2(s_2(t_q))$, ..., $t_m(s_m(t_q))$), which can be represented on the real resp. complex number plane,

or

- the intersection points (ξ_{hq}) of the freely definable function ($f^{\#}(t_q)$) or of the freely definable functions ($f_1^{\#}(t_q)$, $f_2^{\#}(t_q)$, ..., $f_\mu^{\#}(t_q)$) of the signal ($s^{\#}(t_q)$) or of the signals ($s_1^{\#}(t_q)$, $s_2^{\#}(t_q)$, ..., $s_\Omega^{\#}(t_q)$), which can be represented on the real resp. complex number plane,

if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and

(1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, this in a in a qth step, and then determining their mean value (

$$\xi^{\circ}_{q} := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^{*}_{q}) of all intersection points ($\xi_{h1,}, \xi_{h2}, \ldots, \xi_{hq}$

$$\xi^{*}_{q} := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / \left(k_1 + k_2 + \ldots k_q \right)$$

as well as means for determining whether the mean value (ξ°_{ϖ}) closest to (ξ^{*}_{q}), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^{*}_{q}, \xi^{*}_{q} + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and if this is the case for selecting to be matched with (ξ°_{ϖ})

- the combination ($f\hat{}(t_{\varpi})$) or combinations ($f_1\hat{}(t_{\varpi})$ or $f_2\hat{}(t_{\varpi})$ or ... or $f_p\hat{}(t_{\varpi})$) or signals ($s_1(t_{\varpi})$ or $s_2(t_{\varpi})$ or ... or $s_m(t_{\varpi})$) or the transfer functions ($t_1(s_1(t_{\varpi}))$ or $t_2(s_2(t_{\varpi}))$ or ... or $t_m(s_m(t_{\varpi}))$), which can be represented on the real resp. complex number plane,

or

- the freely definable function ($f^{\#}(t_{\varpi})$) or freely definable functions ($f_1^{\#}(t_{\varpi})$ or $f_2^{\#}(t_{\varpi})$ or ... or $f_{\mu}^{\#}(t_{\varpi})$) or signals ($s^{\#}(t_{\varpi})$) or ($s_1^{\#}(t_{\varpi})$ or $s_2^{\#}(t_{\varpi})$ or ... or $s_{\Omega}^{\#}(t_{\varpi})$), which can be represented on the real resp. complex number plane,

or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as means for determining whether for the same mean value of various

- combinations ($f\hat{}(t_s)$) or combinations ($f_1\hat{}(t_s)$, $f_2\hat{}(t_s)$, ..., $f_p\hat{}(t_s)$) or signals ($s_1(t_s)$, $s_2(t_s)$, ..., $s_m(t_s)$) or the transfer functions ($t_1(s_1(t_s))$, $t_2(s_2(t_s))$, ..., $t_m(s_m(t_s))$), which can be represented on the real resp. complex number plane, $1 \leq s \leq q$,

or

- freely definable functions ($f^{\#}(t_{\iota})$) or freely definable functions ($f_1^{\#}(t_{\iota})$, $f_2^{\#}(t_{\iota})$, ..., $f_{\mu}^{\#}(t_{\iota})$) or signals ($s^{\#}(t_{\iota})$) or signals ($s_1^{\#}(t_{\iota})$, $s_2^{\#}(t_{\iota})$, ..., $s_{\Omega}^{\#}(t_{\iota})$), which can be represented on the real resp. complex number plane, $1 \leq \iota \leq q$,

or the properties or parameters of these signals or transfer functions or combinations or functions exist, and, if this is the case, for selecting those signals or those transfer functions or those combinations or

those functions or those properties or parameters of these signals or transfer functions or combinations or functions, that so far appeared with the highest frequency, as well as for determining whether several signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions occur with the same frequency, and if this is the case for selecting those signals or those transfer functions or those combinations or those functions or those properties or parameters of these signals or transfer functions or combinations or functions that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, as well as means for determining whether this too applies to several signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions, and if this is the case, for selecting the first one that appears as well as for determining whether two mean values from ($\xi^\circ_1, \xi^\circ_2, ..., \xi^\circ_q$) are close to ($\xi^*_q$), and if this is the case, for determining whether in a q-1th step one of the two mean values resp. their associated signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions have been selected, and if this is the case, for retaining those signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for

determining whether the thus selected mean value then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and if this is the case for selecting to be matched with this mean value the signals or transfer functions or combinations or functions or the properties or parameters of these signals or transfer functions or combinations or functions, as well as means for ending the entire process if this is the case, as well as

means for performing a $q+1^{th}$ step in the same form as represented for the qth step and for continuing the process and for determining whether one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached, and thus whether the process should be ended, and if this is the case, for ending the entire process.

23. Device according to claim 13, characterized by means

- for determining the intersection points (ξ_{h1}) of the sum of the complex transfer functions ($f^*[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_1)$, $y(t_1)$), which can be represented on the complex or real number plane, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the

complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then determining their mean value (

$$\xi^{\circ}_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1 ;$$

- for subsequently determining the intersection points (ξ_{h2}) of the sum of the complex transfer functions ($f^*[x(t_2)] = [x(t_2)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_2)] = [y(t_2)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_2)$, $y(t_2)$), which can be represented on the complex or real number plane, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, and then determining their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^*_2) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^*_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2)$$

as well as for determining whether the mean value (ξ°_{υ}) closest to (ξ^{*}_{2}), where υ is equal to 1 or 2, then lies within the interval [$-\sigma + \xi^{*}_{2}, \xi^{*}_{2} + \sigma$], where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user, as well as for selecting the signals ($x(t_{\upsilon})$ or $y(t_{\upsilon})$) or transfer functions ($f^{*}[x(t_{\upsilon})] = [x(t_{\upsilon})/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_{\upsilon}] = [y(t_{\upsilon})/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_{υ}), and, if this is the case, for ending the entire process, as well as for determining whether possibly two mean values ($\xi^{\circ}_{1}, \xi^{\circ}_{2}$) have the same distance to (ξ^{*}_{2}), and if this is the case, for selecting (ξ°_{1}) and for determining whether (ξ°_{1}) lies within the interval [$-\sigma + \xi^{*}_{2}, \xi^{*}_{2} + \sigma$], where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, as well as for selecting signals ($x(t_1)$ or $y(t_1)$) or transfer functions ($f^{*}[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties of parameters of these signals or transfer functions or sums to be matched with (ξ°_{1}), and if this is the case, for ending the entire process, as well as

- for determining the intersection points (ξ_{hq}) of the sum of the complex transfer functions ($f^{*}[x(t_q)] = [x(t_q)/\sqrt{2}] * (-1 + i)$ and $g^{*}[y(t_q)] = [y(t_q)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_q)$, $y(t_q)$), which can be represented on the complex or real number plane, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1,

1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, this in a qth step, and then determining their mean value (

$$\xi^{\circ}_{q} := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^{*}_{q}) of all intersection points (ξ_{h1}, ξ_{h2}, ..., ξ_{hq},

$$\xi^{*}_{q} := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / (k_1 + k_2 + \ldots k_q),$$

and for determining whether the mean value (ξ°_{ϖ}) closest to (ξ^{*}_{q}), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval [$-\sigma + \xi^{*}_{q}$, $\xi^{*}_{q} + \sigma$], where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, and for selecting signals ($x(t_{\varpi})$ or $y(t_{\varpi})$) or transfer functions ($f^{*}[x(t_{\varpi})] = [x(t_{\varpi})/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_{\varpi})] = [y(t_{\varpi})/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_{ϖ}), and, if this is the case, for ending the entire process, as well as for determining whether in case of the same mean value, different signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific

properties or parameters of these signals or transfer functions or sums, $1 \leq s \leq q$, exist and, if this is the case, for selecting those signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums that so far appeared with the highest frequency, as well as for determining whether several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums occur with the same frequency, and if this is the case, for selecting those signals ($x(t_s)$ or $y(t_s)$) or Transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, as well as for determining whether this too applies to several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, and if this is the case for selecting the first one that appears resp. its signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these

transfer functions or specific properties or parameters of these signals or transfer functions or sums, as well as for determining whether two mean values from ($\xi^{\circ}_1, \xi^{\circ}_2, \ldots, \xi^{\circ}_q$) are close to ($\xi^{*}_q$), and if this is the case for determining whether in a q-1th step one of the two mean values resp. their associated signals (x(t) or y(t)) or transfer functions ($f^{*}[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected, and if this is the case, for retaining those signals (x(t) or y(t)) or transfer functions ($f^{*}[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, as well as for determining whether the thus selected mean value then lies within the interval $[-\sigma + \xi^{*}_q, \xi^{*}_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, by selecting to be matched with this mean value the signals (x(t) or y(t)) or transfer functions ($f^{*}[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, and for ending the entire process, as well as

- for performing a q+1th step in the same form as represented for the qth step and for continuing the process as well as for determining whether one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached

and thus whether the process should be ended, and if this is the case, for ending the entire process;

as well as means

- for determining the intersection points (ξ_{h1}) of the sum of the complex transfer functions ($f^*[x(t_1)] = [x(t_1)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_1)] = [y(t_1)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_1)$, $y(t_1)$), which can be represented on the complex or real number plane, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane wherein hereinafter the abscissa axis of the real number plane is identical with the real axis of the complex number plane, and the ordinate axis of the real number plane is identical with the imaginary axis of the complex number plane, and then determining their mean value (

$$\xi^\circ_1 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} \right) / k_1 ;$$

- for subsequently determining the intersection points (ξ_{h2}) of the sum of the complex transfer functions ($f^*[x(t_2)] = [x(t_2)/\sqrt{2}] * (-1 + i)$ and $g^*[y(t_2)] = [y(t_2)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_2)$, $y(t_2)$), which can be represented on the complex or real number plane, if necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2)

and (1, 1, 1) and located in the 3rd quadrant of the complex or real number plane, and then determining their mean value (

$$\xi^{\circ}_2 := \left(\sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / k_2$$

as well as the mean value (ξ^{*}_2) of all intersection points ($\xi_{h1,}$, ξ_{h2}

$$\xi^{*}_2 := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} \right) / (k_1 + k_2),$$

as well as for determining whether the mean value (ξ°_{υ}) closest to (ξ^{*}_2), where υ is equal to 1 or 2, then lies within the interval $[-\sigma + \xi^{*}_2, \xi^{*}_2 + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, as well as for selecting the signals ($x(t_{\upsilon})$ or $y(t_{\upsilon})$) or transfer functions ($f^{*}[x(t_{\upsilon})] = [x(t_{\upsilon})/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_{\upsilon}] = [y(t_{\upsilon})/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_{υ}), and if this is the case, for ending the entire process, as well as

- for determining the intersection points (ξ_{hq}) of the sum of the complex transfer functions ($f^{*}[x(t_q)] = [x(t_q)/\sqrt{2}] * (-1 + i)$ and $g^{*}[y(t_q)] = [y(t_q)/\sqrt{2}] * (1 + i)$) of the paired signal ($x(t_q)$, $y(t_q)$), which can be represented on the complex or real number plane, if

necessary after appropriate conversion, by means of the half-plane defined by the vectors (1, 1, -2) and (1, 1, 1) or also (-1, -1, 2) and (1, 1, 1) and located in the 1st quadrant of the complex or real number plane, this in a qth step, and then determining their mean value (

$$\xi^{\circ}_{q} := \left(\sum_{h_q = 1}^{k_q} \xi_{hq} \right) / k_q$$

as well as the mean value (ξ^{*}_{q}) of all intersection points ($\xi_{h1,}, \xi_{h2}, \ldots, \xi_{hq}$,

$$\xi^{*}_{q} := \left(\sum_{h_1 = 1}^{k_1} \xi_{h1} + \sum_{h_2 = 1}^{k_2} \xi_{h2} + \ldots + \sum_{h_q = 1}^{k_q} \xi_{hq} \right) / (k_1 + k_2 + \ldots k_q),$$

as well as for determining whether the mean value (ξ°_{ϖ}) closest to (ξ^{*}_{q}), where ϖ is equal to 1 or 2 or ... or q, then lies within the interval $[-\sigma + \xi^{*}_{q}, \xi^{*}_{q} + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, as well as for selecting signals ($x(t_{\varpi})$ or $y(t_{\varpi})$) or transfer functions ($f^{*}[x(t_{\varpi})] = [x(t_{\varpi})/\sqrt{2}] * (-1 + i)$ or $g^{*}[y(t_{\varpi})] = [y(t_{\varpi})/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums to be matched with (ξ°_{ϖ}), and if this is the case, for ending the entire process, as well as for determining in case of the same mean value whether different signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^{*}[x(t_s)] = [x(t_s)/\sqrt{2}] *$

(-1 + i) or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, $1 \leq s \leq q$, exist, and if this is the case, for selecting those signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums that so far appeared with the highest frequency, as well as for determining whether several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums occur with the same frequency, and if this is the case for selecting those signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums that exhibit the widest scattering, i.e. those for which the difference d – c is maximum, where d represents the last and c the first index number of the optimization steps respectively undergone, as well as for determining if this too applies to several signals ($x(t_s)$ or $y(t_s)$) or transfer functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, and if this is the case, for selecting the first one that appears resp. its signals ($x(t_s)$ or $y(t_s)$) or transfer

functions ($f^*[x(t_s)] = [x(t_s)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t_s)] = [y(t_s)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, as well as for determining whether two mean values from ($\xi^\circ_1, \xi^\circ_2, ..., \xi^\circ_q$) are close to ($\xi^*_q$), and if this is the case, for determining whether in a q-1th step one of the two mean values resp. their associated signals (x(t) or y(t)) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums are selected, and if this is the case, for retaining those signals (x(t) or y(t)) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, as well as for determining whether the thus selected mean value then lies within the interval $[-\sigma + \xi^*_q, \xi^*_q + \sigma]$, where σ represents the fictitious standard deviation $\sigma > 0$, freely selectable by the user also by a means, by selecting to be matched with this mean value the signals (x(t) or y(t)) or transfer functions ($f^*[x(t)] = [x(t)/\sqrt{2}] * (-1 + i)$ or $g^*[y(t)] = [y(t)/\sqrt{2}] * (1 + i)$) or sums of these transfer functions or specific properties or parameters of these signals or transfer functions or sums, and for ending the entire process, as well as

- for performing a q+1th step in the same form as represented for the qth step is performed and for continuing the process, as well as for determining

whether one mean value fulfills the above requirements or a maximum number of allowed optimization steps has been reached and thus whether the process should be ended, and if this is the case, for ending the entire process.

24. Device according to claim 13, with means for compression or data reduction or other selective evaluation.