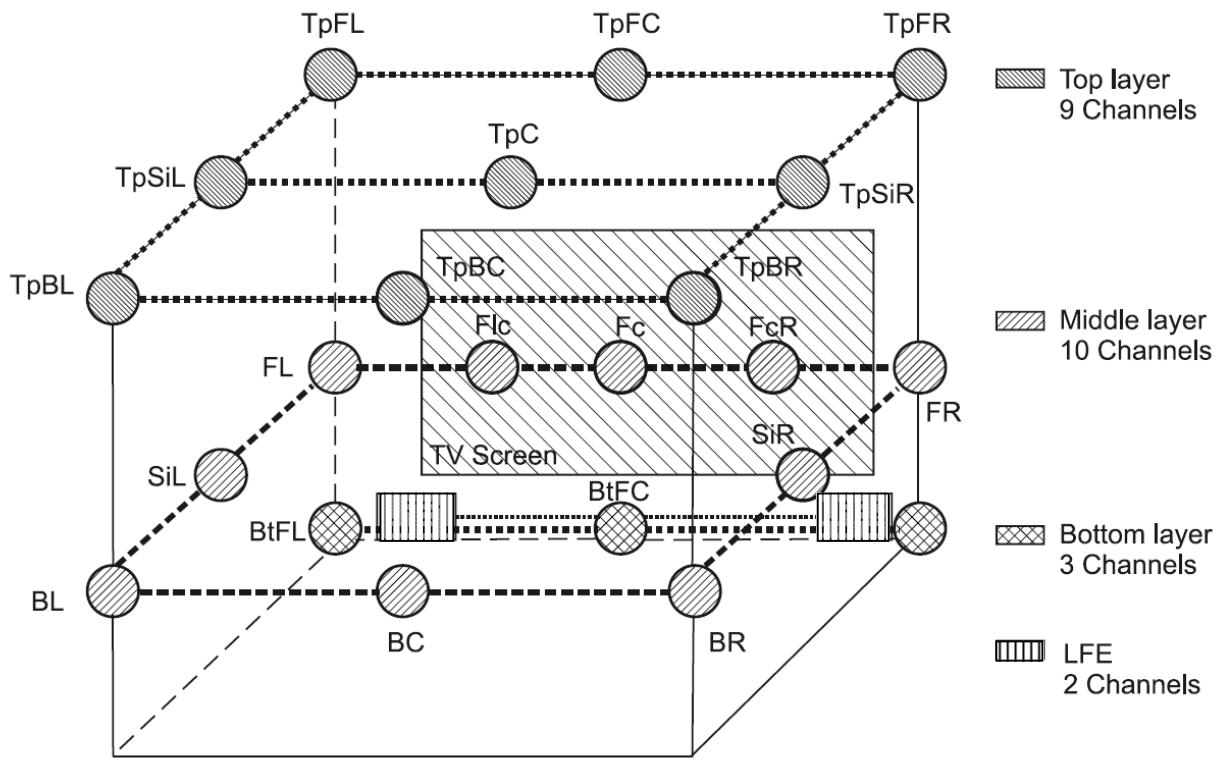


**Fig. 1**

	FL'	FR'	BL'	BR'	TpFL'	TpFR'	TpBL'	TpBR'
FC	0.7071	0.7071	0	0	0	0	0	0
FLc	0.7071	0	0	0	0	0	0	0
FRc	0	0.7071	0	0	0	0	0	0
FL	1	0	0	0	0	0	0	0
FR	0	1	0	0	0	0	0	0
SiL	0.7071	0	0.7071	0	0	0	0	0
SiR	0	0.7071	0	0.7071	0	0	0	0
BL	0	0	0	1	0	0	0	0
BR	0	0	0	0	1	0	0	0
BC	0	0	0.7071	0.7071	0	0	0	0
TpFC	0	0	0	0	0.7071	0.7071	0	0
TpFL	0	0	0	0	1	0	0	0
TpFR	0	0	0	0	0	1	0	0
TpSiL	0	0	0	0	0.7071	0	0.7071	0
TpSiR	0	0	0	0	0	0.7071	0	0.7071
TpBL	0	0	0	0	0	0	1	0
TpBR	0	0	0	0	0	0	0	1
TpBC	0	0	0	0	0	0	0.7071	0.7071
TpC	0	0	0	0	0.5	0.5	0.5	0.5
BtFC	0.5	0.5	0.5	0.5	0	0	0	0
BtFL	0.7071	0	0	0.7071	0	0	0	0
BtFR	0	0.7071	0.7071	0	0	0	0	0

Fig. 2

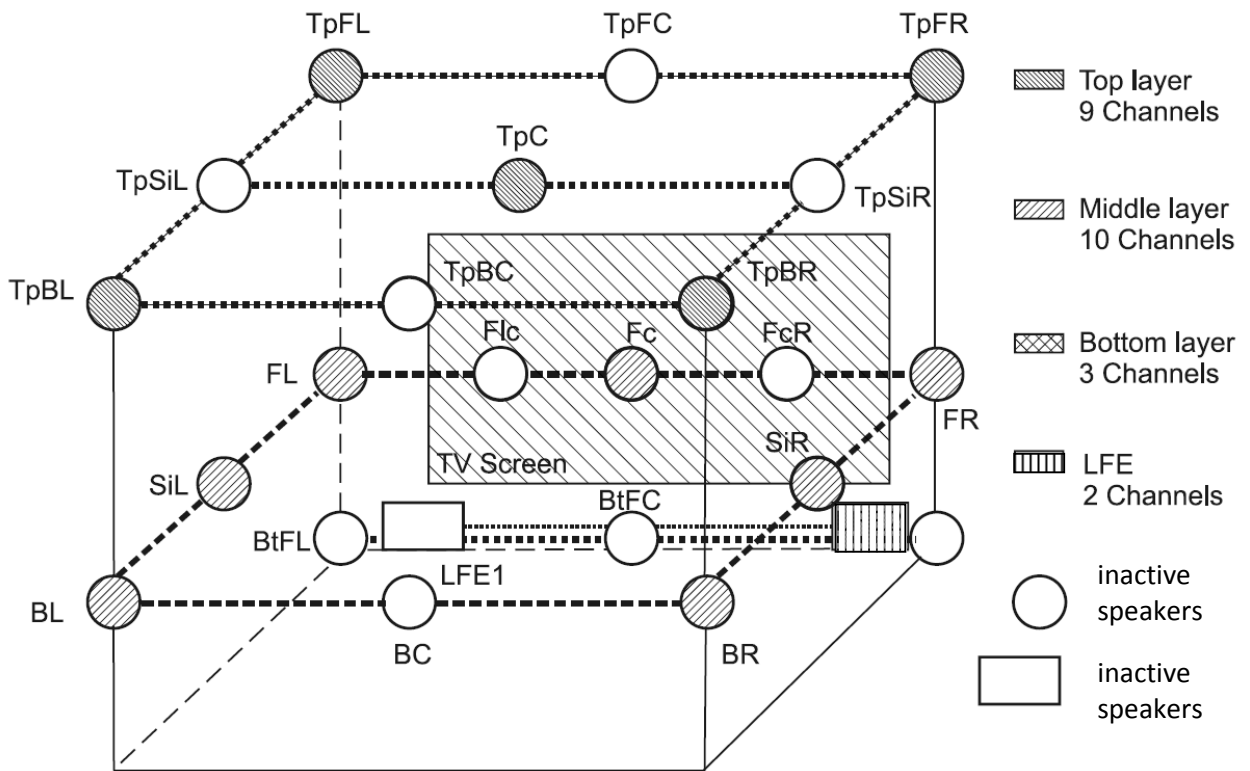


Fig. 3

	FC'	FL'	FR'	SiL'	SiR'	BL'	BR'
FC	1	0	0	0	0	0	0
FL	0	1	0	0	0	0	0
FR	0	0	1	0	0	0	0
SiL	0	0	0	1	0	0	0
SiR	0	0	0	0	1	0	0
BL	0	0	0	0	0	1	0
BR	0	0	0	0	0	0	1
TpFL	0	0.5	0	0	0	0.5	0
TpFR	0	0	0.5	0	0	0	0.5
TpBL	0	0.5	0	0	0	0.5	0
TpBR	0	0	0.5	0	0	0	0.5
TpC	0	0.5	0.5	0	0	0.5	0.5

Fig. 4

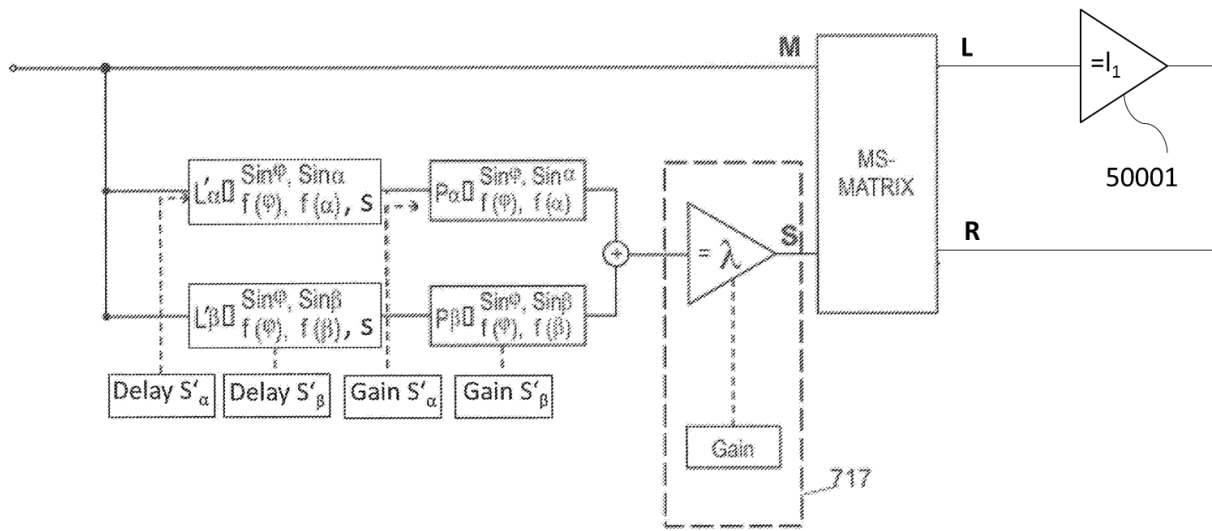


Fig. 5

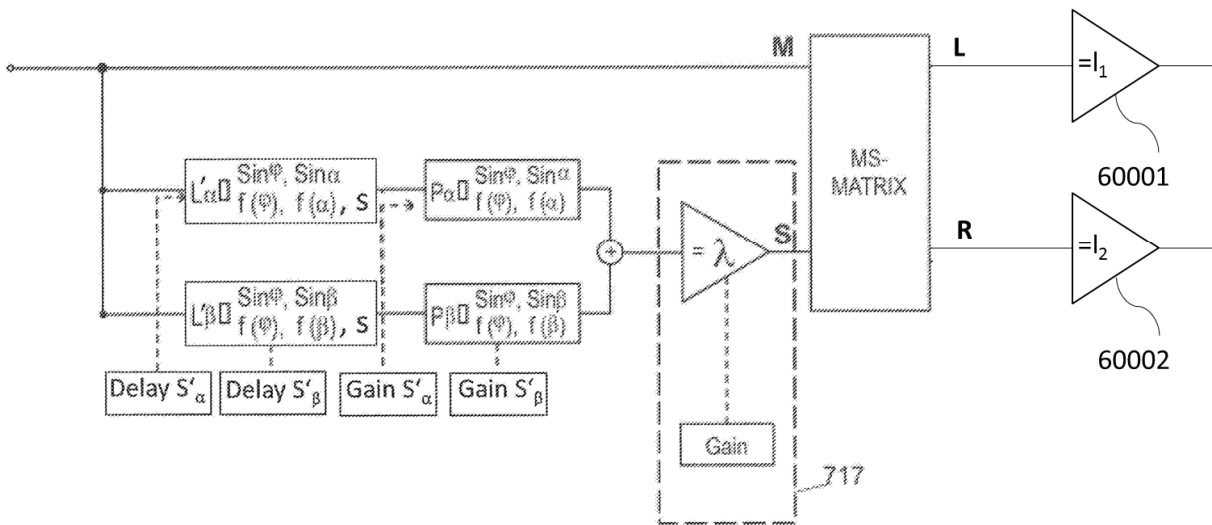
It holds $I_1 \neq I_2$.

Fig. 6

FL'	FC'	FL'	FR'	SIL'	SIR'	BL'	BR'	BC'	TpFC'	TpFL'	TpFR'	TpSIL'	TpSIR'	TpBL'	TpBR'	TpBC'	BtFL'	BtFR'
k=+1	k=+1	1	0	k=+1	0	0	0	0	0	0	0	0	0	0	0	0	k=+1	0
k=+1	k=+1	0	1	0	k=+1	0	0	0	0	0	0	0	0	0	0	0	0	k=+1
0	0	0	0	k=+1	0	1	0	k=+1	0	0	0	0	0	0	0	0	0	k=+1
0	0	0	0	0	k=+1	0	1	k=+1	0	0	0	0	0	0	0	0	k=+1	0
TpFL'	0	0	0	0	0	0	0	0	k=+1	1	0	k=+1	0	0	0	0	0	0
TpFR'	0	0	0	0	0	0	0	0	k=+1	0	1	0	k=+1	0	0	0	0	0
TpBL'	0	0	0	0	0	0	0	0	0	0	0	k=+1	0	1	0	k=+1	0	0
TpBR'	0	0	0	0	0	0	0	0	0	0	0	0	k=+1	0	1	k=+1	0	0

FIG. 7

	BtFC'
BtFL'	k=+1
BtFR'	k=+1

FIG. 8

	FC*	SiL*	SiR*	BC*	TpFC*	TpSiL*	TpSiR*	TpBC*	BtFC*
FC'	abs	0	0	0	0	0	0	0	0
SiL'	0	absl	0	0	0	0	0	0	0
SiR'	0	0	absl	0	0	0	0	0	0
BC'	0	0	0	absl	0	0	0	0	0
TpFC'	0	0	0	0	absl	0	0	0	0
TpSiL'	0	0	0	0	0	absl	0	0	0
TpSiR'	0	0	0	0	0	0	absl	0	0
TpBC'	0	0	0	0	0	0	0	absl	0
BtFC'	0	0	0	0	0	0	0	0	absl

FIG. 9

FC*	1	FL*	FR*	SIL*	SIR*	BL*	BR*	BC*	TpFC*	TpFL*	TpFR*	TpSIL*	TpSIR*	TpBL*	TpBR*	TpBC*	BtFC*	BtFL*	BtFR*
FL*	-0.7071	1	-0.7071	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FR*	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SIL*	0	-0.7071	0	1	0	-0.7071	0	0	0	0	0	0	0	0	0	0	0	0	0
SIR*	0	0	-0.7071	0	1	0	-0.7071	0	0	0	0	0	0	0	0	0	0	0	0
BL*	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
BR*	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
BC*	0	0	0	0	0	-0.7071	-0.7071	1	0	0	0	0	0	0	0	0	0	0	0
TpFC*	0	0	0	0	0	0	0	0	1	-0.7071	-0.7071	0	0	0	0	0	0	0	0
TpFL*	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
TpFR*	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
TpSIL*	0	0	0	0	0	0	0	0	0	-0.7071	-0.7071	0	0	-0.7071	0	0	0	0	0
TpSIR*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	-0.7071	0	0	0	0
TpBL*	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
TpBR*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
TpBC*	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.7071	-0.7071	1	0	0	0
BtFC*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-0.7071	0
BtFL*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-0.7071
BtFR*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

FIG. 10

FL''	J1(0.7071)	FLc'	FRc'	FL'''	FR'''
FR''	0	0	J2(0.7071)	0	J2(1)

FIG. 11

	FLc*	FRc*	FL*	FR*
FLc'	J1(0.7071)*	0	0	0
FRc'	0	J2(0.7071)*	0	0
FL'''	0	0	abs	0
FR'''	0	0	0	abs

FIG. 12

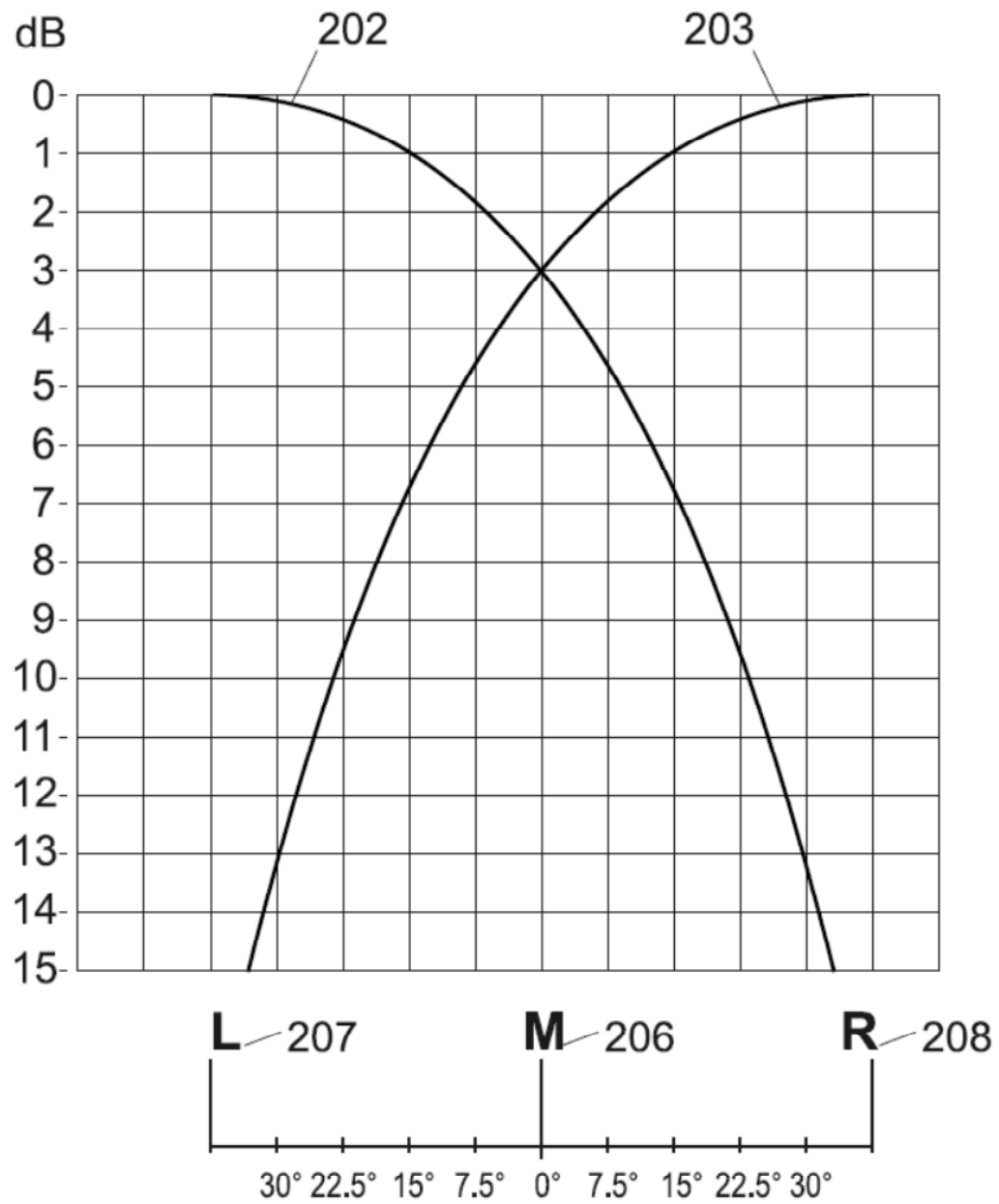


Fig. 13

	FC'	FL'	FR'	SIL'	SIR'	BL'	BR'	TpL'	TpR'
FC'	1	0	0	0	0	0	0	0	0
FL'	0	1	0	0	0	0	0	k=+1	0
FR'	0	0	1	0	0	0	0	0	k=+1
SIL'	0	0	0	1	0	0	0	0	0
SIR'	0	0	0	0	1	0	0	0	0
BL'	0	0	0	0	0	1	0	k=+1	0
BR'	0	0	0	0	0	0	1	0	k=+1

FIG. 14

	TpL''	TpR''
TpL'	absl	0
TpR'	0	absl

FIG. 15

	FC*	FL*	FR*	SIL*	SIR*	BL*	BR*	TpL''	TpR''
FC'	1	0	0	0	0	0	0	0	0
FL'	0	1	0	0	0	0	0	0	0
FR'	0	0	1	0	0	0	0	0	0
SIL'	0	0	0	1	0	0	0	0	0
SIR'	0	0	0	0	1	0	0	0	0
BL'	0	0	0	0	0	1	0	0	0
BR'	0	0	0	0	0	0	1	0	0
TpL''	0	-0.7071	0	0	0	-0.7071	0	1	0
TpR''	0	0	-0.7071	0	0	0	-0.7071	0	1

FIG. 16

	FC*	FL*	FR*	SIL*	SIR*	BL*	BR*	TpFL''	TpFR''	TpBL''	TpBR''
FC*	1	0	0	0	0	0	0	0	0	0	0
FL*	0	1	0	0	0	0	0	0	0	0	0
FR*	0	0	1	0	0	0	0	0	0	0	0
SIL*	0	0	0	1	0	0	0	0	0	0	0
SIR*	0	0	0	0	1	0	0	0	0	0	0
BL*	0	0	0	0	0	1	0	0	0	0	0
BR*	0	0	0	0	0	0	1	0	0	0	0
TpL''	0	0	0	0	0	0	0	J1(1)	0	J1(0.7071)	0
TpR''	0	0	0	0	0	0	0	0	J2(1)	0	J2(0.7071)

FIG. 17

	TpFL*	TpFR*	TpBL*	TpBR*
TpFL''	abs	0	0	0
TpFR''	0	abs	0	0
TpBL''	0	0	J1(0.7071)*	0
TpBR''	0	0	0	J2(0.7071)*

FIG. 18

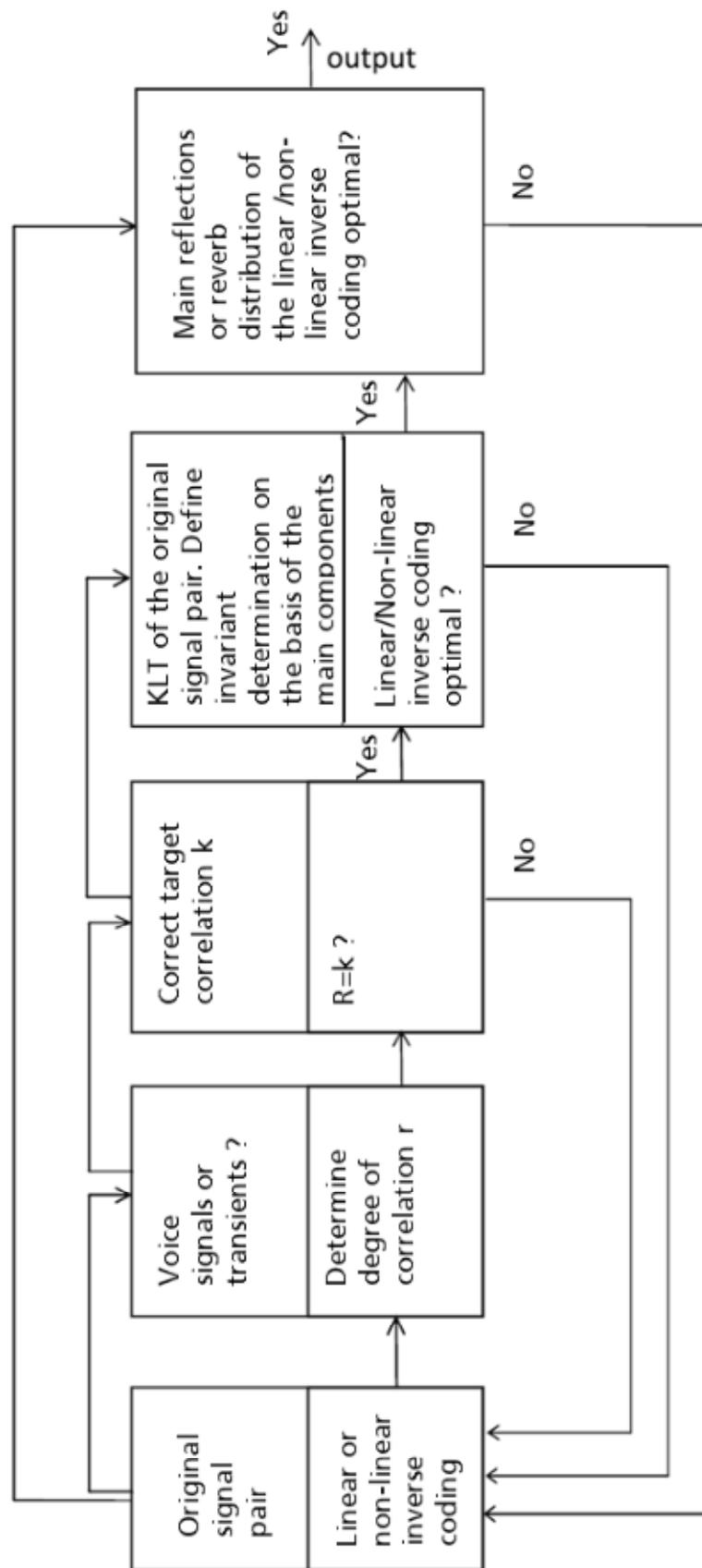


Fig. 19

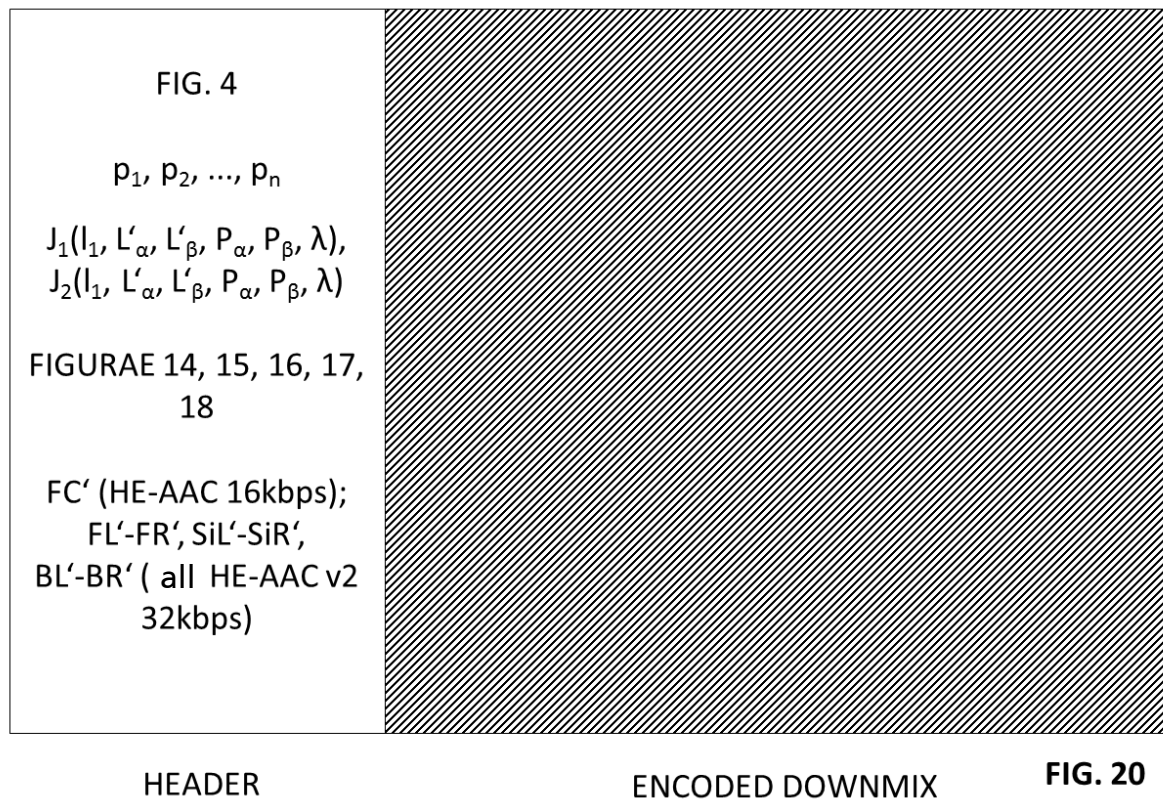


TABLE 2 Equations for the downmixing of 3/2 source material

Mono format 1/0	L	R	C	LS	RS
	C'= 0.7071	0.7071	1.0000	0.5000	0.5000
Stereo format 2/0	L	R	C	LS	RS
	L'= 1.0000	0.0000	0.7071	0.7071	0.0000
	R'= 0.0000	1.0000	0.7071	0.0000	0.7071
Three-channel format 3/0	L	R	C	LS	RS
	L'= 1.0000	0.0000	0.0000	0.7071	0.0000
	R'= 0.0000	1.0000	0.0000	0.0000	0.7071
	C'= 0.0000	0.0000	1.0000	0.0000	0.0000
Three-channel format 2/1	L	R	C	LS	RS
	L'= 1.0000	0.0000	0.7071	0.0000	0.0000
	R'= 0.0000	1.0000	0.7071	0.0000	0.0000
	S'= 0.0000	0.0000	0.0000	0.7071	0.7071
Four-channel format 3/1	L	R	C	LS	RS
	L'= 1.0000	0.0000	0.0000	0.0000	0.0000
	R'= 0.0000	1.0000	0.0000	0.0000	0.0000
	C'= 0.0000	0.0000	1.0000	0.0000	0.0000
	S'= 0.0000	0.0000	0.0000	0.7071	0.7071
Four-channel format 2/2	L	R	C	LS	RS
	L'= 1.0000	0.0000	0.7071	0.0000	0.0000
	R'= 0.0000	1.0000	0.7071	0.0000	0.0000
	LS'= 0.0000	0.0000	0.0000	1.0000	0.0000
	RS'= 0.0000	0.0000	0.0000	0.0000	1.0000

Fig. 21