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1. A method for at least partially deconstructing a flat display screen (10), the screen (10) comprising:

- a substantially plane faceplate (11), comprising four lateral edges and an visible portion (12) on a front side of the screen (10) intended for image display,

- a frame (13), mounting the faceplate (11) by partially covering at least the front side and two lateral edges,

the method comprising steps consisting of:

- placing (100) a single screen (10) on a holding device (20), and

- clamping (110) the single screen (10) on the holding device (20),

characterized in that it further comprises a step consisting of:

- carrying out a plastic deformation (120) of the frame (13), while maintaining the integrity of the faceplate (11), by a pushing movement of a plastic deformation device~~.~~ set in relative movement with respect to the screen (10) such as to exert a mechanical force on the frame (13) in order to deform it according to at least one of the following trajectories: a rectilinear trajectory parallel with the plane of the faceplate (11), a rectilinear trajectory non parallel with the plane of the faceplate (11), a curved trajectory, or a combination of these movements.

2. The method according to claim 1, further comprising a step of weakening (130) of the frame (13) by mechanical and/or thermal action on the frame (13).

3. The method according to claim 2, wherein the step of weakening (130) is only implemented on all or part of the frame (13) partially covering the front side of the screen (10).

4. The method according to any one of the preceding claims, wherein at least two out of the four corners of the screen (10) are clamped, the plastic deformation (120) being performed on an unclamped corner.

5. The method according to any one of the preceding claims, further comprising a step (140) of determining the dimensions and the position in space of the visible faceplate (12).

6. The method according to any one of the preceding claims, further comprising a step (150) of laser profilometry consisting in obtaining the three-dimensional topography of at least a portion at least of the screen (10).

7. The method according to any one of the preceding claims, further comprising a step (160) of removing the faceplate (11) from the frame (13).

8. A device (20) for holding a flat display screen (10) for at least the partial deconstruction thereof, the device comprising:

a clamping system comprising:

• a support (21), whereon a screen (10) is likely to be positioned,

• a set of independent branches (22A, 22B, 22C, 22D) mounted on the support (21),

• a flange (23A, 23B, 23C, 23D) positioned at the end of each branch.

9. The holding device (20) according to claim 8, wherein each flange (23A, 23B, 23C, 23D) is mounted rotatably with respect to the branch (22A, 22B, 22C, 22D) which supports it, according to an axis of rotation perpendicular to the plane of the support (21); and/or each branch (22A, 22B, 22C, 22D) is mounted rotatably with respect to the support (21), according to an axis of rotation perpendicular to the plane of the support (21).

10. The holding device (20) according to any one of claims 8 or 9, wherein each branch (22A, 22B, 22C, 22D) is telescopic.

11. A system for deconstructing at least partially a flat display screen (10), the system comprising

- a holding device (20) according to any one of claims 8 to 10,

- a possibly screen (10) positioned in the holding device (20), and

- a plastic deformation device liable to be set in relative movement with respect to the screen (10) such as to exert a mechanical force on the frame (13) in order to deform it according to at least one of the following trajectories: a rectilinear trajectory parallel with the plane of the faceplate (11), a rectilinear trajectory non parallel with the plane of the faceplate (11), a curved trajectory, or a combination of these movements.

12. The system according to claim 11, wherein the plastic deformation device comprises

- a tool of force concentration (30) and

- possibly a rotating force transmission means (40), connected to the tool of force concentration,

the tool of force concentration (30) comprising a form making it possible to concentrate the constraints to be applied to the frame (13).

13. The system according to claim 12 wherein the tool of force concentration (30) exhibits a leading edge (31) configured to pass between the faceplate (11) and the frame (13).

14. The system according to claim 12 or 13 wherein the tool of force concentration (30) exhibits a leading edge (31) having a variable opening angle on the depth of said tool (30).

15. The system according to any one of claims 12 to 14, further comprising a camera (50) to view and/or control on the console of an operator the proceedings of the application of plastic deformation forces.

CLAIMS

1. A method for at least partially deconstructing a flat display screen (10), the screen (10) comprising:

- a substantially plane faceplate (11), comprising four lateral edges and an visible portion (12) on a front side of the screen (10) intended for image display,

- a frame (13), mounting the faceplate (11) by partially covering at least the front side and two lateral edges,

the method comprising steps consisting of:

- placing (100) a single screen (10) on a holding device (20), and

- clamping (110) the single screen (10) on the holding device (20),

characterized in that it further comprises a step consisting of:

- carrying out a plastic deformation (120) of the frame (13), while maintaining the integrity of the faceplate (11).

2. The method according to claim 1, further comprising a step of weakening (130) of the frame (13) by mechanical and/or thermal action on the frame (13).

3. The method according to claim 2, wherein the step of weakening (130) is only implemented on all or part of the frame (13) partially covering the front side of the screen (10).

4. The method according to any one of the preceding claims, wherein at least two out of the four corners of the screen (10) are clamped, the plastic deformation (120) being performed on an unclamped corner.

5. The method according to any one of the preceding claims, further comprising a step (140) of determining the dimensions and the position in space of the visible faceplate (12).

6. The method according to any one of the preceding claims, further comprising a step (150) of laser profilometry consisting in obtaining the three-dimensional topography of at least a portion at least of the screen (10).

7. The method according to any one of the preceding claims, further comprising a step (160) of removing the faceplate (11) from the frame (13).

8. A device (20) for holding a flat display screen (10) for at least the partial deconstruction thereof, the device comprising:

a clamping system comprising:

• a support (21), whereon a screen (10) is likely to be positioned,

• a set of independent branches (22A, 22B, 22C, 22D) mounted on the support (21),

• a flange (23A, 23B, 23C, 23D) positioned at the end of each branch.

9. The holding device (20) according to claim 8, wherein each flange (23A, 23B, 23C, 23D) is mounted rotatably with respect to the branch (22A, 22B, 22C, 22D) which supports it, according to an axis of rotation perpendicular to the plane of the support (21); and/or each branch (22A, 22B, 22C, 22D) is mounted rotatably with respect to the support (21), according to an axis of rotation perpendicular to the plane of the support (21).

10. The holding device (20) according to any one of claims 8 or 9, wherein each branch (22A, 22B, 22C, 22D) is telescopic.

11. A system for deconstructing at least partially a flat display screen (10), the system comprising

- a holding device (20) according to any one of claims 8 to 10,

- a possibly screen (10) positioned in the holding device (20), and

- a plastic deformation device liable to be set in relative movement with respect to the screen (10) such as to exert a mechanical force on the frame (13) in order to deform it according to at least one of the following trajectories: a rectilinear trajectory parallel with the plane of the faceplate (11), a rectilinear trajectory non parallel with the plane of the faceplate (11), a curved trajectory, or a combination of these movements.

12. The system according to claim 11, wherein the plastic deformation device comprises

- a tool of force concentration (30) and

- possibly a rotating force transmission means (40), connected to the tool of force concentration,

the tool of force concentration (30) comprising a form making it possible to concentrate the constraints to be applied to the frame (13).

13. The system according to claim 12 wherein the tool of force concentration (30) exhibits a leading edge (31) configured to pass between the faceplate (11) and the frame (13).

14. The system according to claim 12 or 13 wherein the tool of force concentration (30) exhibits a leading edge (31) having a variable opening angle on the depth of said tool (30).

15. The system according to any one of claims 12 to 14, further comprising a camera (50) to view and/or control on the console of an operator the proceedings of the application of plastic deformation forces.

CLAIMS

1. A method for at least partially deconstructing a flat display screen (10), the screen (10) comprising:

- a substantially plane faceplate (11), comprising four lateral edges and an visible portion (12) on a front side of the screen (10) intended for image display,

- a frame (13), mounting the faceplate (11) by partially covering at least the front side and two lateral edges,

the method comprising steps consisting of:

- placing (100) a single screen (10) on a holding device (20), and

- clamping (110) the single screen (10) on the holding device (20),

characterized in that it further comprises a step consisting of:

- carrying out a plastic deformation (120) of the frame (13), while maintaining the integrity of the faceplate (11), by a pushing movement of a plastic deformation device set in relative movement with respect to the screen (10) such as to exert a mechanical force on the frame (13) in order to deform it according to at least one of the following trajectories: a rectilinear trajectory parallel with the plane of the faceplate (11), a rectilinear trajectory non parallel with the plane of the faceplate (11), a curved trajectory, or a combination of these movements.

2. The method according to claim 1, further comprising a step of weakening (130) of the frame (13) by mechanical and/or thermal action on the frame (13).

3. The method according to claim 2, wherein the step of weakening (130) is only implemented on all or part of the frame (13) partially covering the front side of the screen (10).

4. The method according to any one of the preceding claims, wherein at least two out of the four corners of the screen (10) are clamped, the plastic deformation (120) being performed on an unclamped corner.

5. The method according to any one of the preceding claims, further comprising a step (140) of determining the dimensions and the position in space of the visible faceplate (12).

6. The method according to any one of the preceding claims, further comprising a step (150) of laser profilometry consisting in obtaining the three-dimensional topography of at least a portion at least of the screen (10).

7. The method according to any one of the preceding claims, further comprising a step (160) of removing the faceplate (11) from the frame (13).

8. A device (20) for holding a flat display screen (10) for at least the partial deconstruction thereof, the device comprising:

a clamping system comprising:

• a support (21), whereon a screen (10) is likely to be positioned,

• a set of independent branches (22A, 22B, 22C, 22D) mounted on the support (21),

• a flange (23A, 23B, 23C, 23D) positioned at the end of each branch.

9. The holding device (20) according to claim 8, wherein each flange (23A, 23B, 23C, 23D) is mounted rotatably with respect to the branch (22A, 22B, 22C, 22D) which supports it, according to an axis of rotation perpendicular to the plane of the support (21); and/or each branch (22A, 22B, 22C, 22D) is mounted rotatably with respect to the support (21), according to an axis of rotation perpendicular to the plane of the support (21).

10. The holding device (20) according to any one of claims 8 or 9, wherein each branch (22A, 22B, 22C, 22D) is telescopic.

11. A system for deconstructing at least partially a flat display screen (10), the system comprising

- a holding device (20) according to any one of claims 8 to 10,

- a possibly screen (10) positioned in the holding device (20), and

- a plastic deformation device liable to be set in relative movement with respect to the screen (10) such as to exert a mechanical force on the frame (13) in order to deform it according to at least one of the following trajectories: a rectilinear trajectory parallel with the plane of the faceplate (11), a rectilinear trajectory non parallel with the plane of the faceplate (11), a curved trajectory, or a combination of these movements.

12. The system according to claim 11, wherein the plastic deformation device comprises

- a tool of force concentration (30) and

- possibly a rotating force transmission means (40), connected to the tool of force concentration,

the tool of force concentration (30) comprising a form making it possible to concentrate the constraints to be applied to the frame (13).

13. The system according to claim 12 wherein the tool of force concentration (30) exhibits a leading edge (31) configured to pass between the faceplate (11) and the frame (13).

14. The system according to claim 12 or 13 wherein the tool of force concentration (30) exhibits a leading edge (31) having a variable opening angle on the depth of said tool (30).

15. The system according to any one of claims 12 to 14, further comprising a camera (50) to view and/or control on the console of an operator the proceedings of the application of plastic deformation forces.