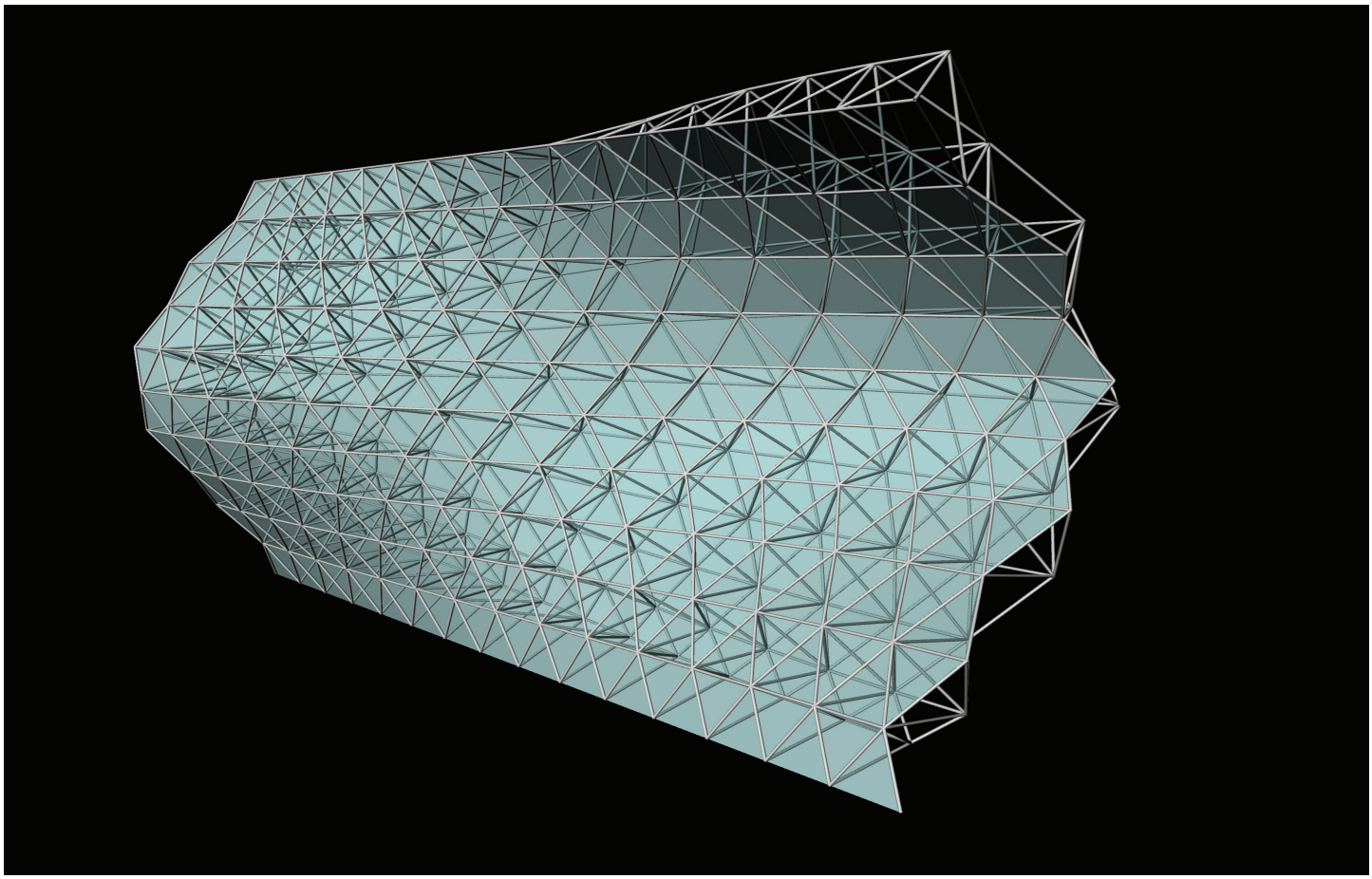
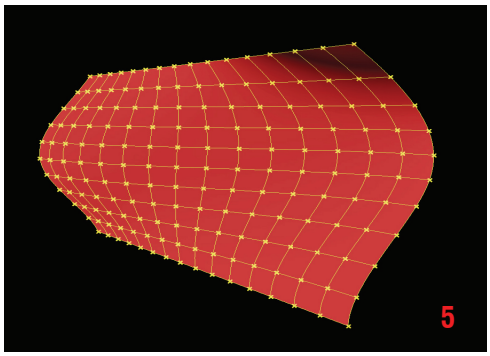
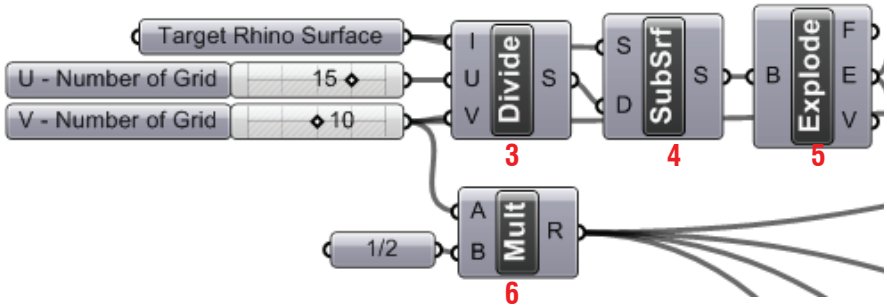
6_2 THREE POINTS TRUSS



Step1 : Basic Surface Dividing



1. ***Brep*** (Params/Geometry/Brep)
- Draw any Surface on Rhino Scene
- "Target Rhino Surface" : Right click and Set one Brep
2. ***Slider*** (Params/Special/Number Slider) x 3
- "U-Number of Grid": Integers, Lower limit=0, Upper limit=20, Value=15
- "V-Number of Grid": Even, Lower limit=0, Upper limit=20, Value=10
3. ***Divide***(Scalar/Domain/Divide Domain²)
- I : *Brep* ("Target Rhino Surface")
- U : *Slider* ("U-Number of Grid")
- V : *Slider* ("V-Number of Grid")
4. ***SubSrf*** (Surface/Util/Isotrim)
- S : *Brep* ("Target Rhino Surface")
- D : *Divide*(S)
5. ***Explode*** (Surface/Analysis/Brep Components)
- S : *SubSrf* (S)
6. ***Mult*** (Scalar/Operators/Multiplication)
- A : *Slider* ("V-Number of Grid")
- B : Number = 0.5



Step2 : Trianglur Paneling (Front Frame Lines and Panels)

7. ***Cull*** (Logic/Sets/Cull Pattern)
- L : *Explode* (E)
- P : Right click and Manage Boolean collection (True/False/False/False)

7-1. ***Cull*** (Logic/Sets/Cull Pattern)
- L : *Cull* (L) -> Flatten!
- P : Right click and Manage Boolean collection (True/False)

7-1-1. ***End*** (Curve/Analysis/End Points)
- C : *Cull* (L)

7-1-1-1. ***Shift*** (Logic/List/Shift List)
- L : *End* (S)
- S : *Mult* (R)

8. ***Cull*** (Logic/Sets/Cull Pattern)
- L : *Explode* (E)
- P : Right click and Manage Boolean collection (False/False/True/False)

8-1. ***Cull*** (Logic/Sets/Cull Pattern)
- L : *Cull* (L) -> Flatten!
- P : Right click and Manage Boolean collection (False/True)

8-1-1. ***End*** (Curve/Analysis/End Points)
- C : *Cull* (L)

8-1-1-1. ***Shift*** (Logic/List/Shift List)
- L : *End* (E)
- S : *Mult* (R)

8-2. ***Cull*** (Logic/Sets/Cull Pattern)
- L : *Cull* (L) -> Flatten!
- P : Right click and Manage Boolean collection (True/False)

8-2-1. ***Eval*** (Curve/Analysis/Evaluate Length)
- C : *Cull* (L)
- L : *Number* = 0.5

8-2-1-1. ***Shift*** (Logic/List/Shift List)
- L : *Eval* (P)
- S : *Mult* (R)

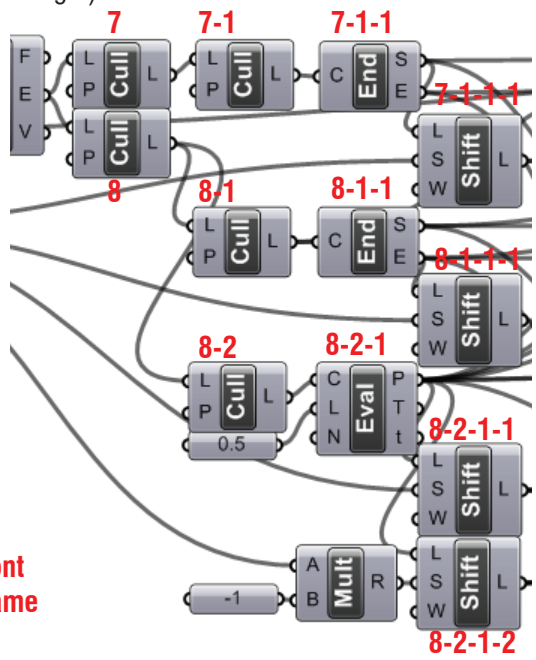
8-2-1-2. ***Shift*** (Logic/List/Shift List)
- L : *Eval* (P)
- S : *Mult* (R) x -1

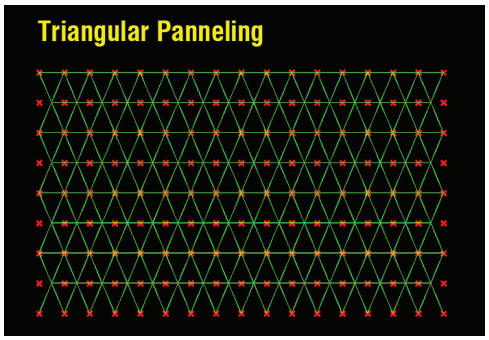
9. ***ReB*** (Curve/Util/Rebuild)
- C : *8-1. Cull* (L)
- D : *Integer* =1

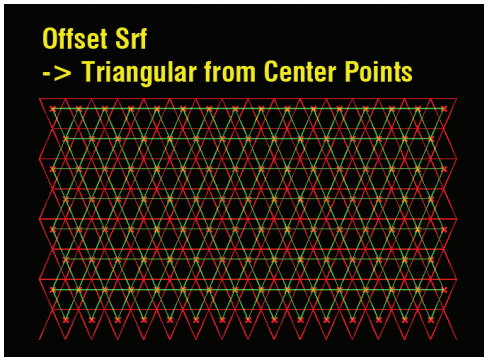
10. ***Ln*** (Curve/Primitive/Line)
- A : *7-1-1. End* (S)
- B : *8-2-1 Eval* (P)

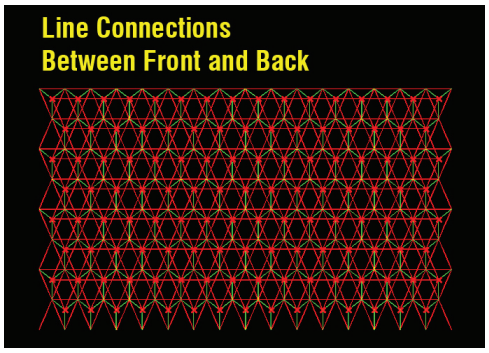
11. ***Ln*** (Curve/Primitive/Line)
- A : *7-1-1. End* (E)
- B : *8-2-1 Eval* (P)

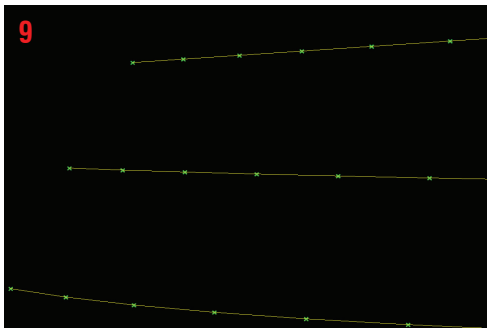
Front Frame

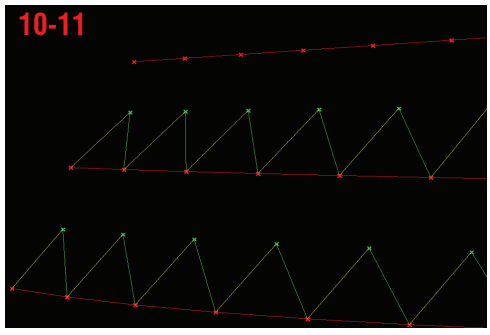












12. ***Ln*** (Curve/Primitive/Line)
- A : *8-1-1. End* (S)
- B : *8-2-1 Eval* (P)

13. ***Ln*** (Curve/Primitive/Line)
- A : *8-1-1. End* (E)
- B : *8-2-1 Eval* (P)

14. ***Ln*** (Curve/Primitive/Line)
- A : *8-2-1-1. Shift* (L)
- B : *8-2-1-2. Shift* (L)

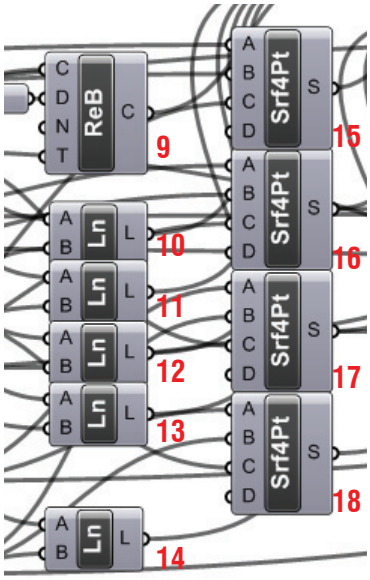
15. ***Srf4Pt*** (Surface/Freeform/4Point Surface)
- A : *7-1-1. End* (S)
- B : *7-1-1. End* (E)
- C : *8-2-1 Eval* (P)

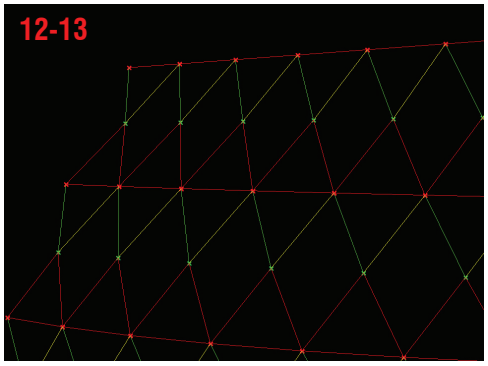
16. ***Srf4Pt*** (Surface/Freeform/4Point Surface)
- A : *8-1-1. End* (S)
- B : *8-2-1. End* (E)
- C : *8-2-1 Eval* (P)

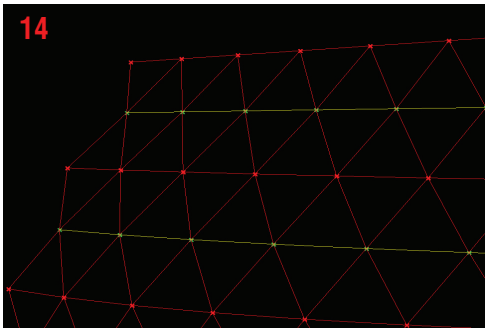
17. ***Srf4Pt*** (Surface/Freeform/4Point Surface)
- A : *8-2-1-1. Shift* (L)
- B : *8-2-1-2. Shift* (L)
- C : *7-1-1-1. Shift* (L)

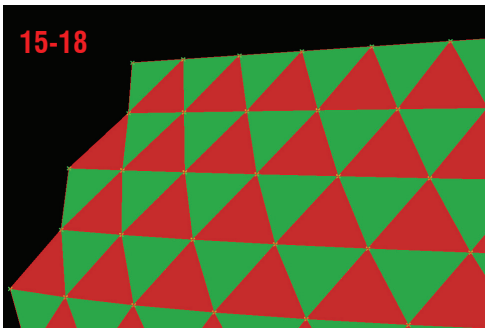
18. ***Srf4Pt*** (Surface/Freeform/4Point Surface)
- A : *8-2-1-1. Shift* (L)
- B : *8-2-1-2. Shift* (L)
- C : *8-1-1-1. Shift* (L)

Panel Surface









Step3 : Mid Frame Lines and Back Frame Lines

19. ***Slider*** (Params/Special/Number Slider)
- "Thickness of Truss" : Floating point, Lower limit=0, Upper limit=3, Value=3

20. ***Offset*** (Surface/Freeform/Offset)
- S : *16.Srf4Pt* (S)
- D : *Slider* ("Thickness of Truss")

20-1. ***Area*** (Surface/Analysis/Brep Area)
- B : *20.Offset* (S)

20-1-1. ***Ln*** (Curve/Primitive/Line)
- A : *8-2-1. Eval* (P)
- B : *20-1.Area* (C)

20-1-1. ***Ln*** (Curve/Primitive/Line)
- A : *8-1-1. End* (S)
- B : *20-1.Area* (C)

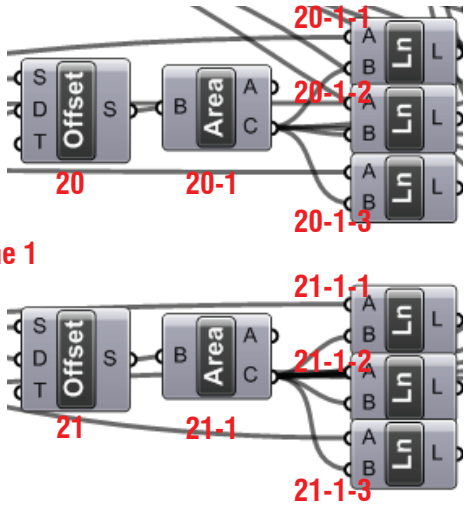
20-1-2. ***Ln*** (Curve/Primitive/Line)
- A : *8-1-1. End* (E)
- B : *20-1.Area* (C)

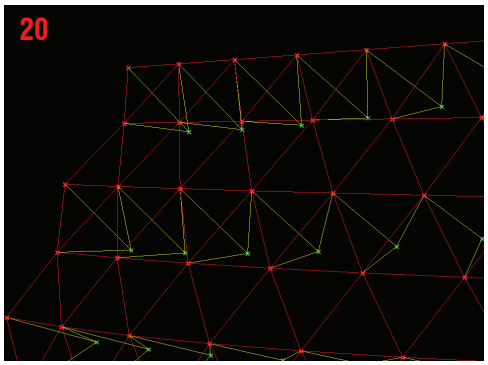
Mid Frame 1

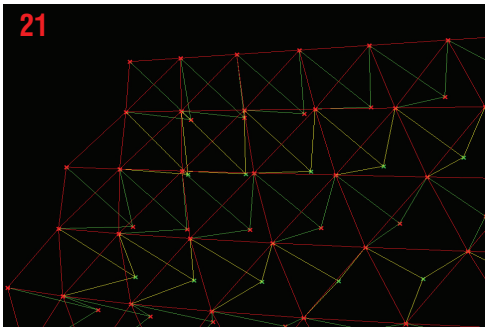
21. ***Offset*** (Surface/Freeform/Offset)
- S : *17.Srf4Pt* (S)
- D : *Slider* ("Thickness of Truss")

21-1. ***Area*** (Surface/Analysis/Brep Area)
- B : *Offset* (S)

21-1-1. ***Ln*** (Curve/Primitive/Line)
- A : *8-2-1-1. Shift* (L)
- B : *21-1. Area* (C)







21-1-2. ***Ln*** (Curve/Primitive/Line)
- A : *8-2-1-2. Shift* (L)
- B : *21-1. Area* (C)

21-1-3. ***Ln*** (Curve/Primitive/Line)
- A : *7-1-1-1. Shift* (L)
- B : *21-1. Area* (C)

Mid Frame 2

22. ***Mult*** (Scalar/Operators/Multiplication)
- A : *Slider* (“V-Number of Grid”)
- B : Number = 0.5

23. ***Shift*** (Logic/List/Shift List)
- L : *20-1. Area* (C)
- S : *22.Mult* (R)

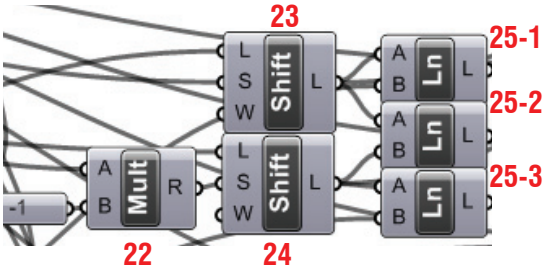
24. ***Shift*** (Logic/List/Shift List)
- L : *20-1. Area* (C)
- S : *22.Mult* (R) *X Integer* (“-1”)

25-1. ***Ln*** (Curve/Primitive/Line)
- A : *23. Shift* (L)
- B : *21-1. Area* (C)

25-2. ***Ln*** (Curve/Primitive/Line)
- A : *23. Shift* (L)
- B : *24. Shift* (L)

25-3. ***Ln*** (Curve/Primitive/Line)
- A : *8-1-1.End* (E)
- B : *21-1.Area* (C)

Back Frame 1



26. ***CullN*** (Logic/Sets/Cull Nth)
- L : *23.Shift* (L)
- N : *22.Mult* (L)

27. ***CullN*** (Logic/Sets/Cull Nth)
- L : *24.Shift* (L)
- N : *22.Mult* (R)

28. ***Shift*** (Logic/List/Shift List)
- L : *21-1. Area* (C)
- S : *Integer =1*

29. ***CullN*** (Logic/Sets/Cull Nth)
- L : *28.Shift* (L)
- N : *22.Mult* (L)

30-1. ***Ln*** (Curve/Primitive/Line)
- A : *26. CullN* (L)
- B : *29. CullN* (L)

30-2. ***Ln*** (Curve/Primitive/Line)
- A : *27. CullN* (L)
- B : *29. CullN* (L)

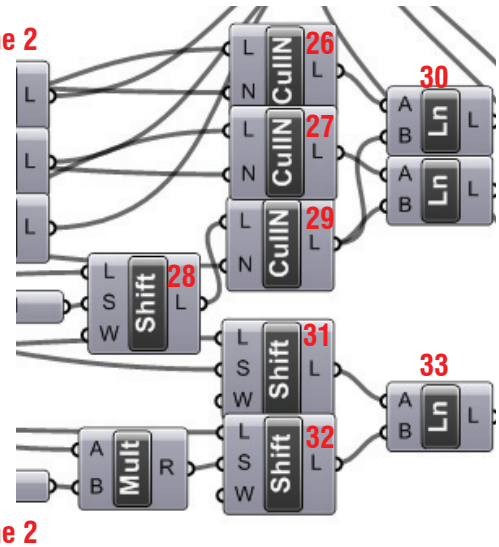
Back Frame 2

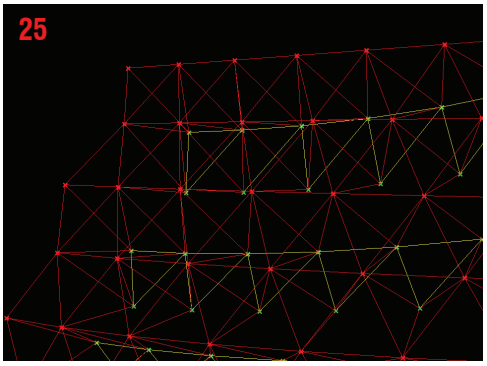
31. ***Shift*** (Logic/List/Shift List)
- L : *21-1. Area* (C)
- S : *22.Mult* (R)

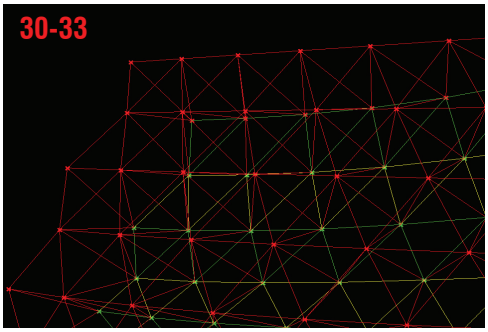
32. ***Shift*** (Logic/List/Shift List)
- L : *21-1. Area* (C)
- S : *22.Mult* (R) *X Integer* (“-1”)

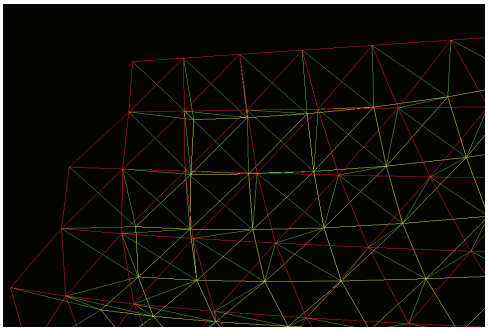
33. ***Ln*** (Curve/Primitive/Line)
- A : *31.Shift* (L)
- B : *32.Shift* (L)

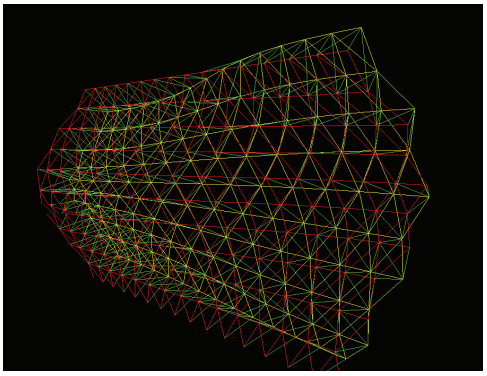
Back Frame 2



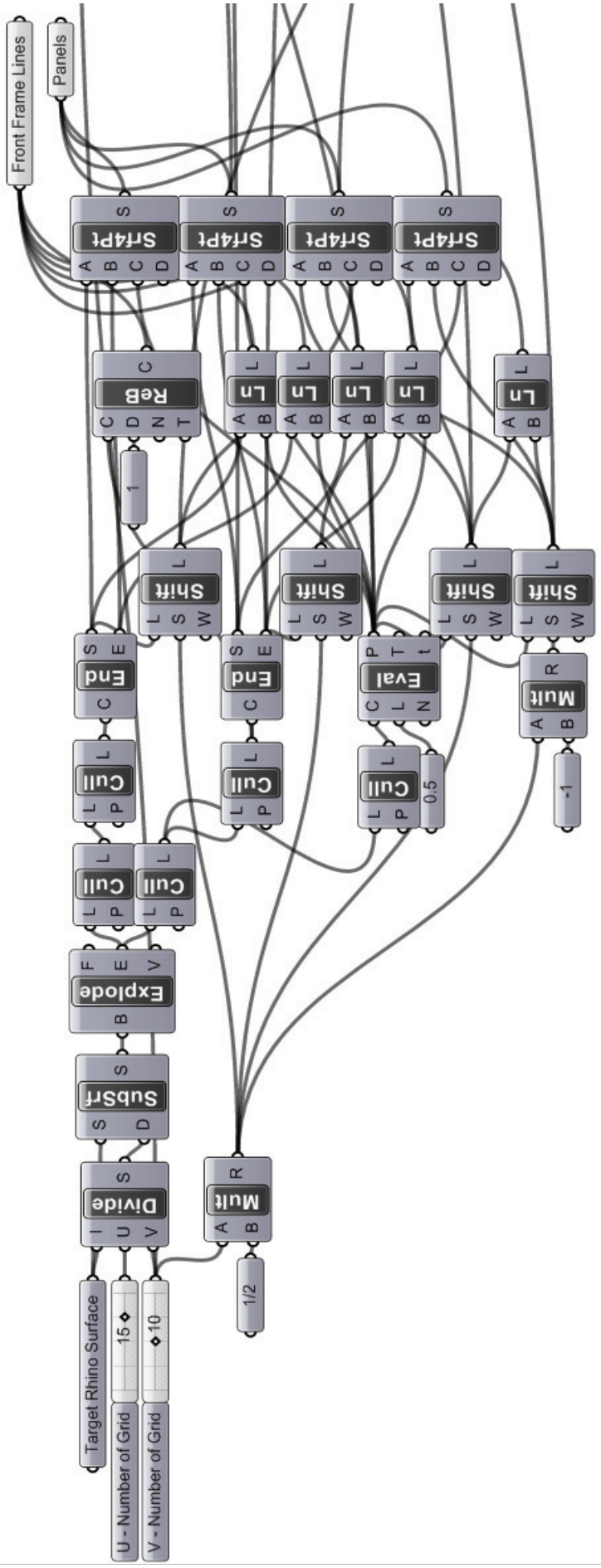








Appendix
- Definition map 1



Appendix
- Definition map 2