

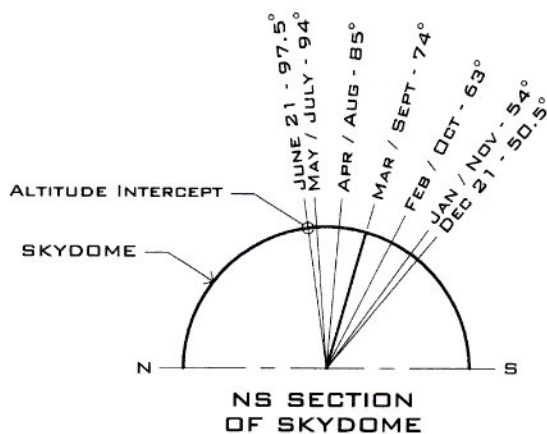
## THE SUN SIMULATOR: A MULTI LIGHT HELIODON

## CHARACTERISTICS:

- CUSTOM BUILT FOR A SPECIFIC LATITUDE WITH A PLUS AND MINUS 10 DEGREE LATITUDE RANGE.
- CAN BE BUILT TO ANY SIZE (BEST FOR 4 TO 6M RANGE IN DIAMETER).
- CONCEPTUALLY CLEAR - EXCELLENT TEACHING TOOL.
- EASY TO UNDERSTAND AND USE.
- GROUND PLANE REMAINS HORIZONTAL OR NEARLY SO (+/- 10°) FOR CONCEPTUAL CLARITY AND EASE OF MODEL HANDLING.
- CAN ACCOMMODATE LARGE MODELS.
- GOOD PARALLEL LIGHT (LARGE LAMPS AT LARGE DIST. FROM MODEL).
- CAN ACCOMMODATE AN AUDIENCE OF AT LEAST 15 (STUDENTS, MUSEUM VISITORS, ETC.)
- RUGGED AND DURABLE (DOES NOT REQUIRE A TRAINED OPERATOR - ANYONE CAN USE THIS HELIODON)
- MODEST COST.

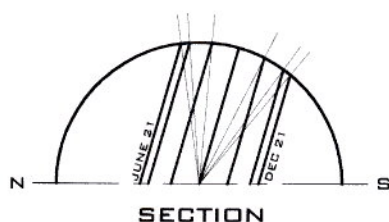
## NOTES:

- ① DRAWINGS CAN BE USED TO BUILD A SUN SIMULATOR OF ANY SIZE. MOST DIMENSIONS ARE RELATIVE TO CHOSEN SKYDOME DIAMETER. THE ONLY EXCEPTIONS ARE THE TILT TABLE DIMENSIONS AND THE HEIGHT OF THE WOODEN ARCH ABUTMENTS WHICH ARE BASED ON ERGONOMICS.
- ② ARCHES CAN BE MADE OF PVC, HEATED AND SHAPED ON A MOLD (TEMPLATE).
- ③ LAMPS: 12V PAR 36 NARROW SPOT (NARROWNESS OF BEAM WILL DEPEND ON DIAMETER OF HELIODON).
- ④ POWER SUPPLY: 200 W, 12V, DC OUTPUT.
- ⑤ HELIODON SHOULD BE BOLTED TO FLOOR. IF AND WHEN HELIODON IS MOVED AS AN ASSEMBLY, THE WOODEN ABUTMENTS MUST BE RIGIDLY CONNECTED TO EACH OTHER TO PREVENT DISTORTIONS AND DAMAGE TO ARCHES.
- ⑥ EACH ARCH HAS A STRAIGHT EXTENSION TO REACH DOWN TO THE SUPPORT SHELF IN ABUTMENTS.
- ⑦ TOP OF TILT TABLE IS 80MM BELOW OPTICAL CENTER TO ALLOW FOR THICKNESS OF MODEL BASE.
- ⑧ NUMBER OF LIGHTS IN EACH MONTH VARIES BY LATITUDE AND TIME OF YEAR.



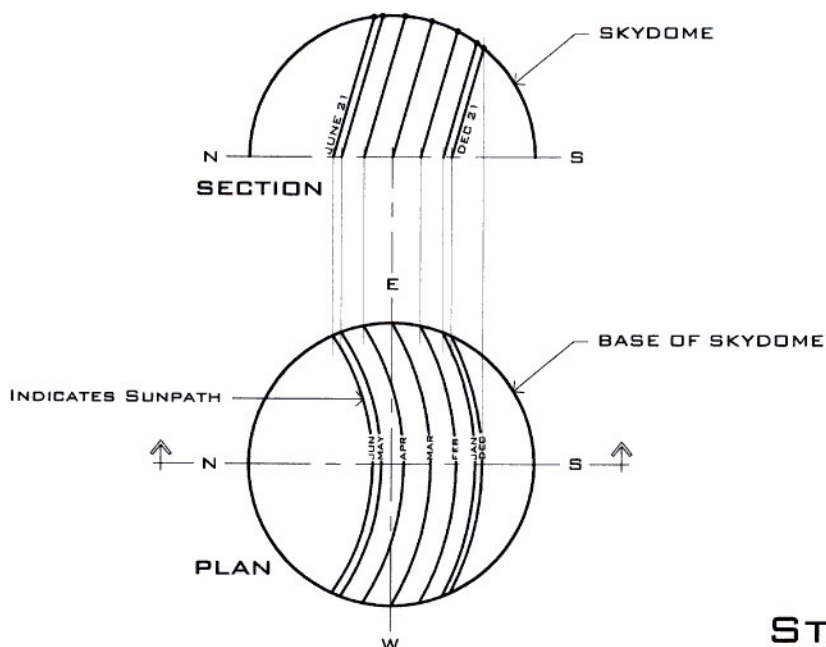
## STEP 1

ALTITUDE ANGLES AT 12 NOON ON  
THE 21ST OF EACH MONTH AT 16° N. LAT.

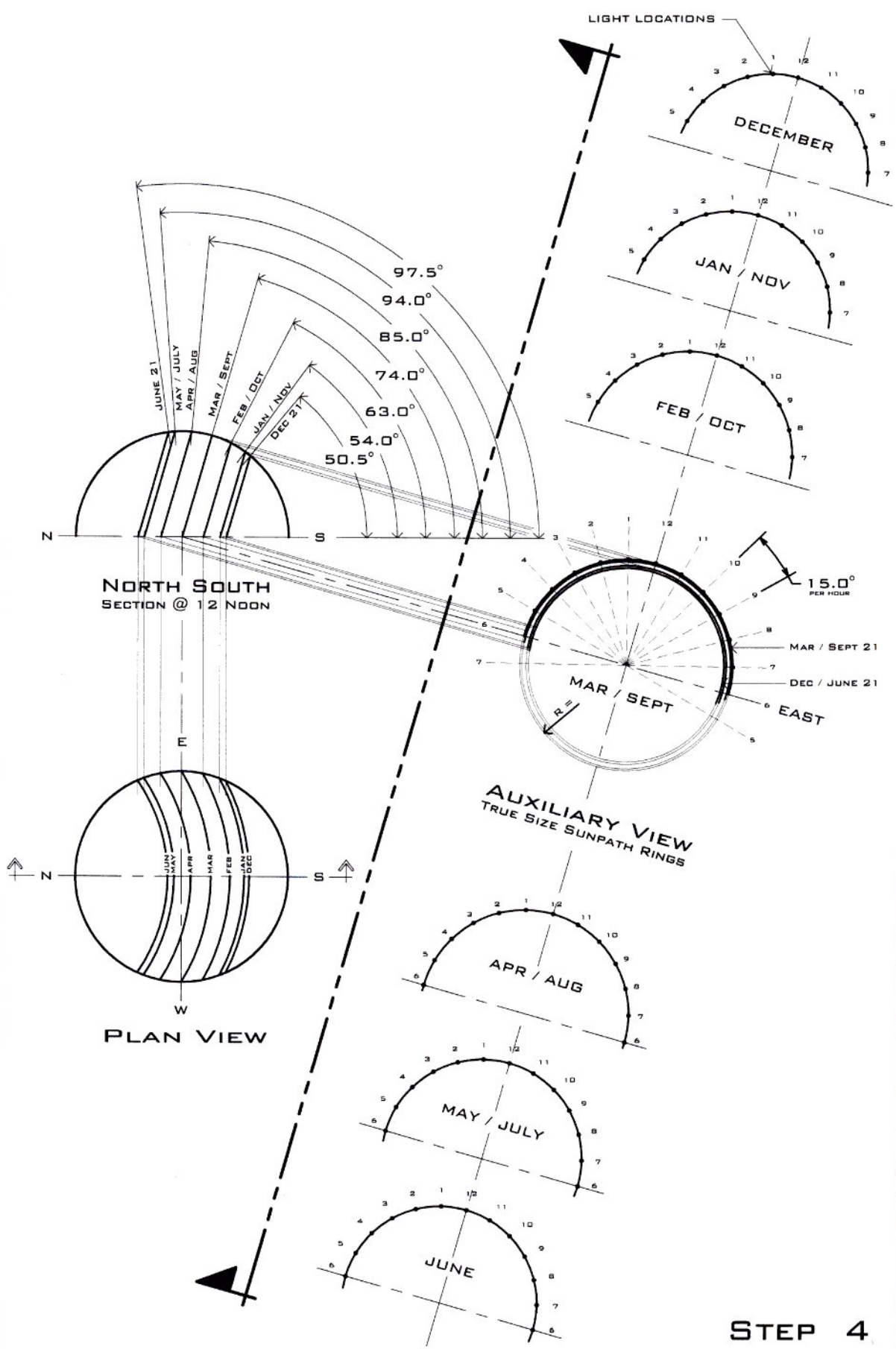


## STEP 2

SUNPATHS FOR 21ST OF EACH MONTH



## STEP 3



STEP 4

HAND HELD  
CONTROLS  
ON CABLE  
(SEE DETAILS)

PLAN VIEW

EAST ARCH  
SUPPORT ABUTMENT

TILT TABLE

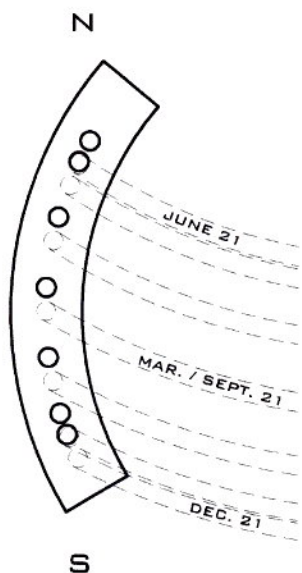
WEST ARCH  
SUPPORT ABUTMENT

CONNECTOR ROD

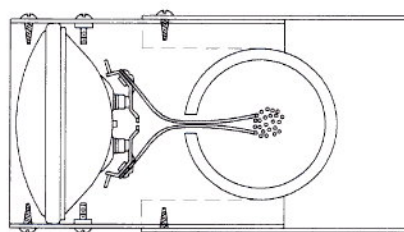
16.0°  
780MM  
700MM

B SECTION  
SCALE = 1:50





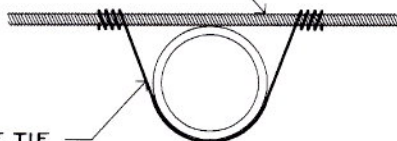
**SUPPORT SHELF  
DETAILS**  
NOT TO SCALE  
(VARIES WITH SPECIFIC DESIGN)



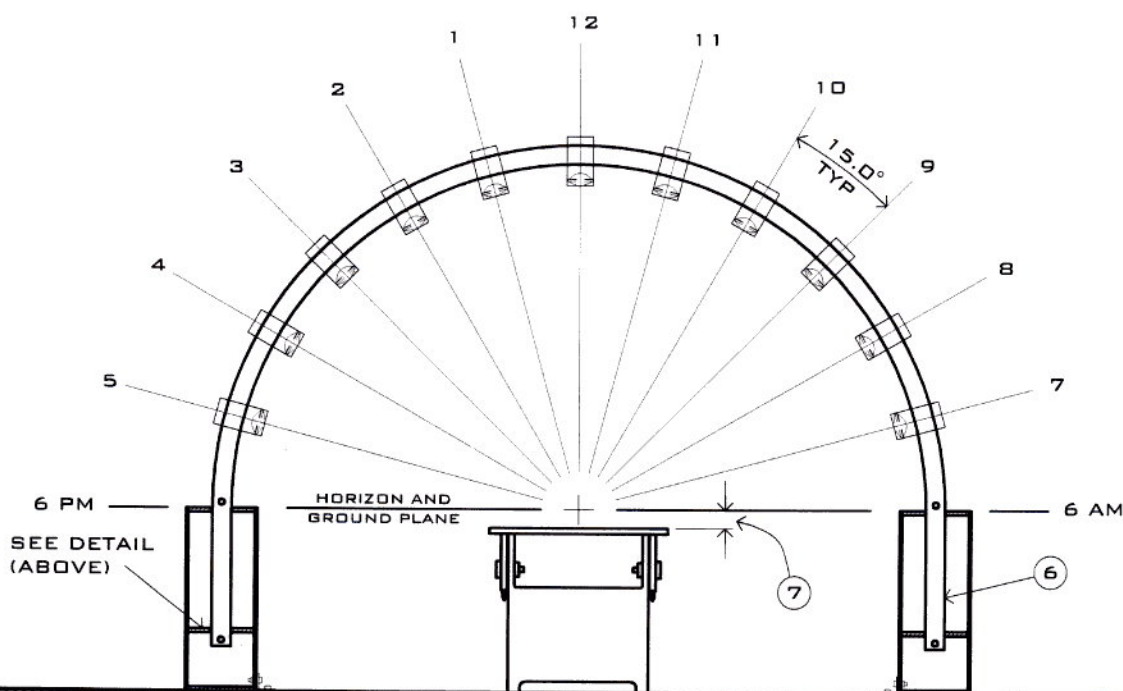
**LIGHT  
DETAIL**

APPROX 6MM  
THREADED ROD

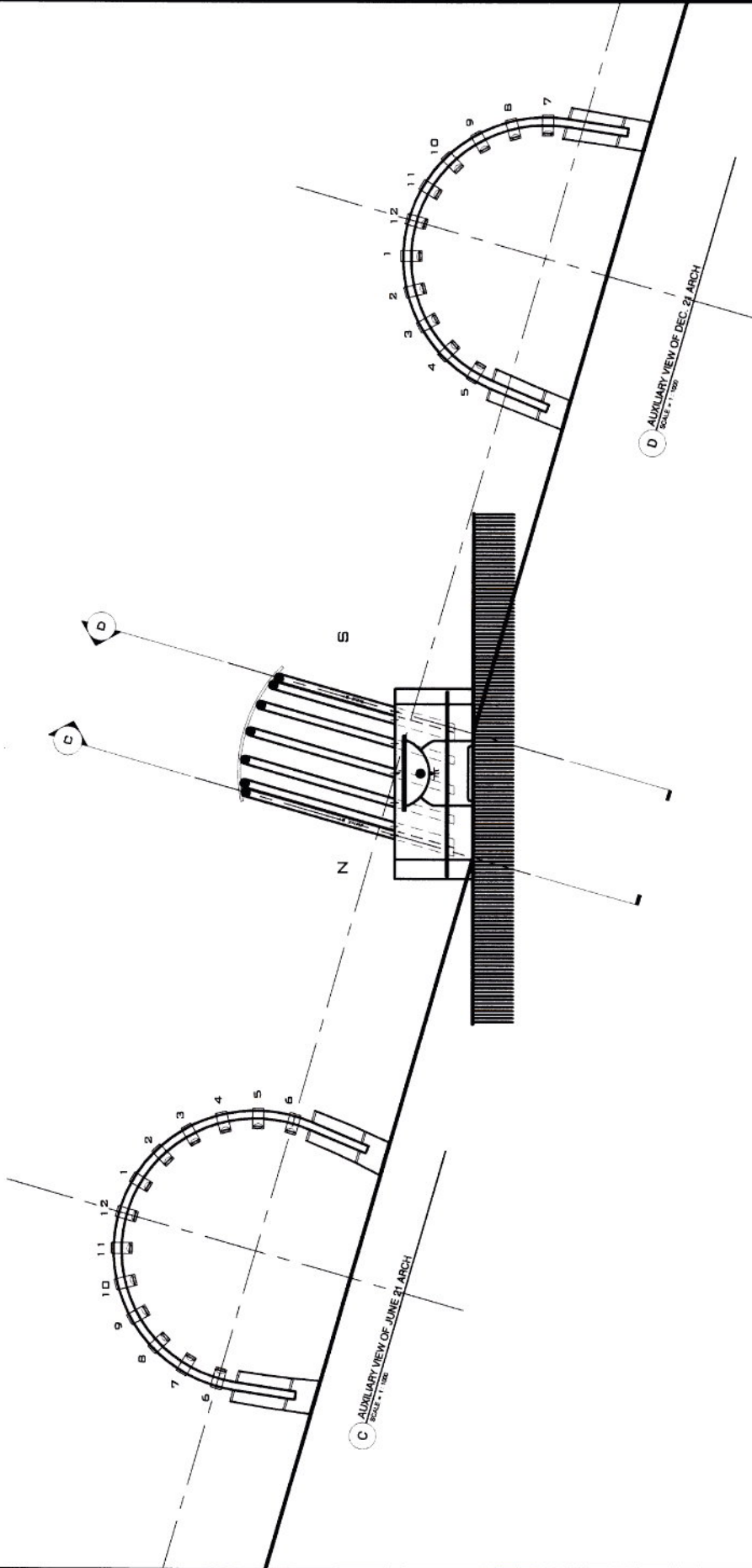
WIRE TIE

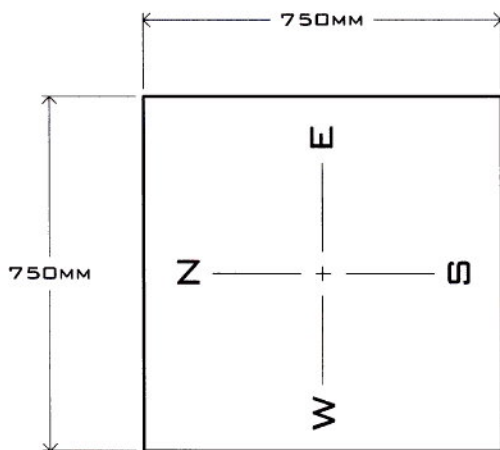


**CONNECTOR ROD  
DETAIL**



A SECTION  
SCALE = 1:500





PLAN VIEW

ONE SIDE PANEL  
IS REMOVABLE  
(SCREWED ONLY)

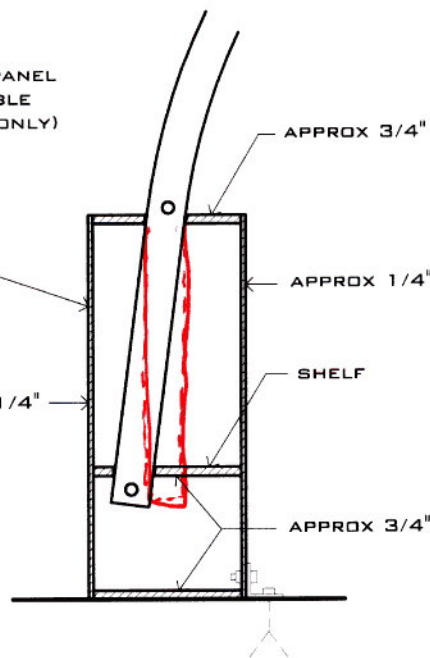
APPROX 1/4"

APPROX 3/4"

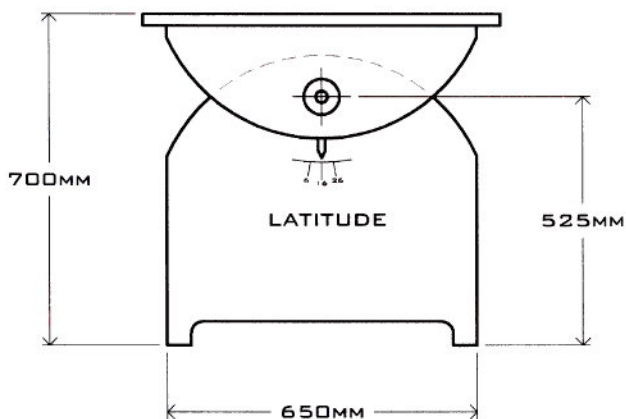
APPROX 1/4"

SHELF

APPROX 3/4"

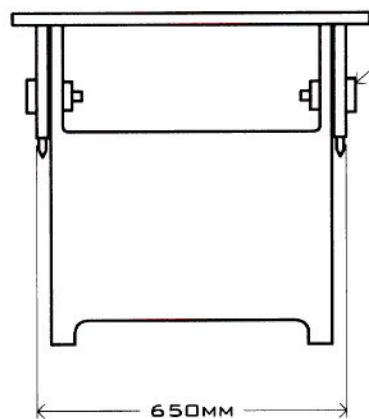


ABUTMENT  
SECTION  
SCALE = 1 : 250



WEST VIEW

KNOB TO LOCK TILT TABLE  
FOR REQUIRED LATITUDE



NORTH OR SOUTH VIEW

TILT TABLE  
DETAILS  
SCALE = 1 : 250

