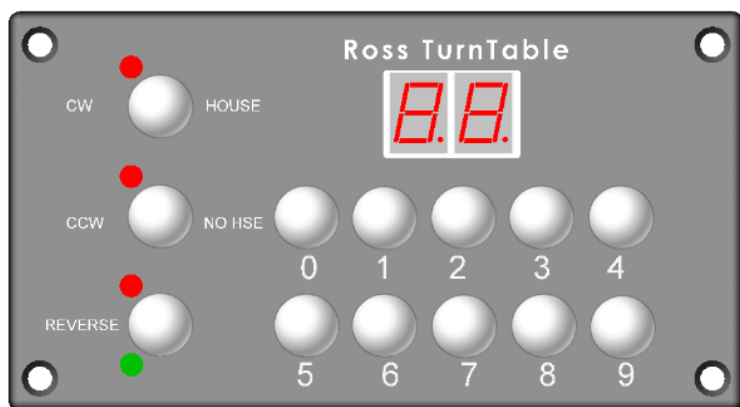# ROSS CUSTOM SWITCHES
TURNTABLE INSTRUCTIONS
INDEXED

1.   THERE IS A 1" LEDGE ALL AROUND THE ¾" (just under) TOP. YOU CAN USE THAT LEDGE TO SUPPORT YOUR TURNTABLE. THE SQUARE HOLE YOU NEED IS 6" BIGGER THAN THE LENGTH OF THE BRIDGE. ONE WAY TO MOUNT IT IS TO SCREW SOME 1X3'S AROUND THE BOTTOM PERIMETER OF YOUR SQUARE HOLE SO THEY STICK OUT ¾-1". THEN LAY THE UNIT RIGHT ON TOP OF THEM AND SCREW IT DOWN. TEST FIT FIRST AND THEN IT IS EASIER TO INSTALL THE BRIDGE ON THE WORKBENCH.

2.   INSTALL THE BRIDGE. TAKE IT EASY WITH THIS STEP. IT'S THE ONLY TEDIOUS PART. PLUG THE WIRES FROM THE BRIDGE INTO THE WIRES COMING UP THROUGH THE CENTER SHAFT. REMOVE THE TWO SHOULDER SCREWS FROM THE GRAY SHAFT BLOCK SIDES. DO NOT PUSH DOWN ON THE TOWER SUPPORTS THAT PROTRUDE OUT FROM THE BOTTOM SIDES OF THE BRIDGE! CENTER THE BRIDGE OVER THE GRAY CENTER BLOCK. GET ONE END STARTED AND CAREFULLY WIGGLE THE BRIDGE DOWN OVER IT. DO NOT PUSH DOWN ON THE TOWER SUPPORTS THAT PROTRUDE OUT FROM THE BOTTOM SIDES! IF YOU BREAK IT OFF YOU CAN GLUE IT BACK ON WITH REGULAR MODEL AIRPLANE GLUE. MAKE SURE THE BRIDGE WHEELS ARE ON THE PIT RAIL. LOOK INTO ONE OF THE TWO MOUNTING HOLES ON THE SIDE OF THE BRIDGE. YOU WILL SEE THAT THE HOLES IN THE GRAY BLOCK DO NOT QUITE MATCH UP WITH THE HOLES IN THE BRIDGE. FLEX THE BRIDGE DOWN SLIGHTLY SO THE HOLES LINE UP AND INSERT THE SHOULDER SCREW. REPEAT ON THE OTHER SIDE.

3.   PLUG THE NINE PIN CONNECTOR FROM THE MOTOR INTO THE CONTROL BOX. BE PREPARED, WHEN YOU COMPLETE THE NEXT STEP THE BRIDGE MAY MOVE! MAKE SURE THE PIT IS CLEAR! PLUG THE WIRE FROM THE POWER SUPPLY INTO THE BLACK POWER JACK ON THE CONTROL BOX. IF NOTHING HAPPENS PUSH 9 THEN 0 (90) AND THE BRIDGE WILL MOVE TO THE HOME POSITION. IT IS A GOOD IDEA TO HOME THE BRIDGE AGAIN BEFORE YOU START LAYING PERMANENT TRACK UP TO THE PIT.

4.   CONNECT TRACK POWER TO THE TWO BRASS FINGER SCREWS ON THE BOTTOM TOWARDS ONE END OF THE UNIT. ONE IS LABELED CEN FOR CENTER RAIL. THE OTHER IS FOR THE OUTSIDE RAIL.

5.   THE TRACK ON THE BRIDGE IS MOVEABLE BOTH END TO END AND SIDE TO SIDE. EYEBALL IT SO IT IS PRETTY WELL CENTERED BOTH WAYS. (LOOK AT BOTH ENDS OF THE TRACK AND THE BRIDGE). PUSH 01 AND THEN THE "HOUSE" BUTTON. THE BRIDGE WILL MOVE TO POSITION 1. IF YOU DO NOT WANT A TRACK THERE CONTINUE ENTERING ANY NUMBERS, 01-47 TO GET TO THE PLACE YOU WANT A TRACK TO BE. LAY A PIECE OF LOOSE TRACK UP TO THE BRIDGE WITH THE RAILS LINED UP TO IT AND ABOUT A 1/8" GAP BETWEEN THEM. PUSH THE REVERSE BUTTON, THE OTHER END OF THE BRIDGE WILL COME AROUND. MOVE THE TRACK ON THE BRIDGE TO LINE UP WITH THE LOOSE TRACK LEADING UP TO IT. CONTINUE THIS PROCESS UNTIL YOU ARE SATISFIED THAT BOTH ENDS OF THE BRIDGE TRACK LINE UP WITH THE LOOSE TRACK. WHEN YOU GO TO MOUNT A PERMANENT TRACK, NOTE IF THE RAILS LINE UP AT THE TOPS AS WELL. YOU MAY NEED TO SHIM THE OUTSIDE TRACK UP WITH PAPER OR BUSINESS CARD MATERIAL TO GET THEM EVEN.

6.   HOLD THE BOTTOM OF THE TOWER SUPPORTS UP WITH YOUR FINGER (BE CAREFUL NOT TO PUT DOWN PRESSURE ON THE SUPPORT!) AND WIGGLE THE TOWER ONE SIDE AT A TIME INTO THE SUPPORT. YOU CAN GLUE IT IN IF YOU WANT BUT IT'S A PRETTY TIGHT FIT. HAVE FUN AND HAPPY RAILROADING! HOME THE BRIDGE AGAIN (90) TO DOUBLE CHECK YOUR WORK.

Ross Turntable Controller   ver. 4-9-08

The turntable has either 24 (15°) or 48 (7.5^o) positions. They are numbered 0-23 and 0-47 respectively. The default is number of positions is 48. The turntable can be controlled by either using the control box or by TMCC commands from the CAB-1 through a connection to a data wire. The data wire is generated by a DZ-2001A plugged into the command base. The Turn Table Controller must be addressed as a TR (Train or Track).

When the turntable is connected to the control box, using the same wiring as for the Ross Transfer Table, and power is first applied, the controller will cause the motor to drive the turntable clockwise until it finds the limit switch at 'zero'. Once, it finds zero (0), the turntable bridge is rotated to position (1), then to position (3), and then back to position zero (0).

<u>Control Box Functions</u>   ('--' will be shown while the turntable rotates, except when rotating 180°.)

1. Pressing CW will cause the turntable to rotate CW one position.
2. Pressing CCW will cause the turntable to rotate CCW one position.
3. Pressing REV will cause the turntable to rotate 180°. 'rr' on display.
4. By pressing the number buttons and entering a number from zero to the last numbered position (either 23 or 47) and then pressing the HOUSE (CW) button the turntable will rotate until the HOUSE end of the bridge is at position entered.
5. By pressing the number buttons and entering a number from zero to the last numbered position (either 23 or 47) and then pressing the NO HOUSE (CCW) button the turntable will rotate until the NO HOUSE end of the bridge is at position entered.

Note: if the HOUSE or NO HOUSE buttons are not pressed within 10 seconds after a number is entered, the unit resets and stays at its current position.

Special Functions

Enter the following codes to change the setup:

84 – change the number of positions to 24. The turntable will rotate until it finds the zero position. Then it will rotate to position (1), position (3) and back to position zero (0).

88 – change the number of positions to 48. The turntable will rotate until it finds the zero position. Then it will rotate to position (1), position (3) and back to position zero (0).

90 – the turntable rotates to local the zero position again. (display is OFF)

80 – lets you rotate the ENTIRE SET of positions CW up to one position to permit alignment to a track position. When the display shows 'Pr', you can use the CW and CCW buttons to move the turntable bridge CW to a new alignment for the current position. This will affect all positions in the same way. If you are not satisfied with the alignment and need to reset to the original alignment, press '90'. This will cause the unit to find the original zero.

99 – cause the controller to accept a TMCC address on the data wire input. The BLUE wire must be connected to a data wire and the BLACK wire must be connected to COMMON (same as the BLACK wire of the DZ-2001). The display will show 'Ad' then switch to just an 'A' for address.

To enter an address from the CAB-1, press TR, then the number (1-9), and then AUX1.

CAB-1 Control of Turntable

To command the turntable from the CAB-1, start by pressing TR, then the turntable address (1-9), then AUX1.

Pressing BOOST (up arrow) will cause turntable to rotate one position CW.

Pressing BRAKE (down arrow) will cause turntable to rotate one position CCW.

Pressing DIR (change direction) will cause the turntable to rotate 180°.

After pressing AUX1, you may enter a position number and then press BOOST to cause the HOUSE end to go to the position. Alternately, pressing BRAKE, will cause the NO HOUSE end to go to the position.

After pressing AUX1, you can enter any of the Special Function codes.

<u>DEMO MODE</u>

55 – entering '55' on the control box or from the CAB-1 (after pressing AUX1) will cause the turntable to enter demo mode. Turn off power to exit DEMO MODE.