LE PROGRAMME A TOUT FAIRE :
THE JACK OF ALL TRADES PROGRAM

This does the calculations giving you
FOR EACH HALF-PERIOD THE NUMBER OF THE COLUMNS
where a given half-period cross over or under the previously laid half-periods.

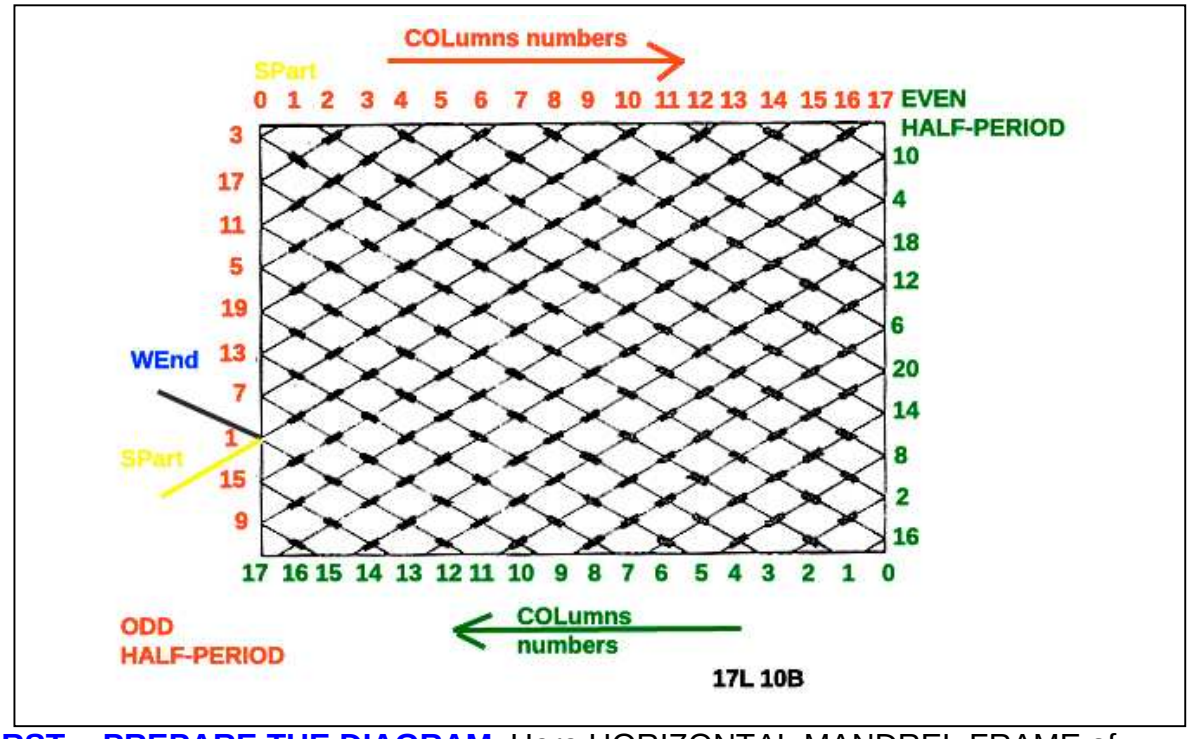
(mind you this IS NOT the code as known : this DOES NOT gives you the nature, the type OVER or UNDER of said crossing in a given COLumn)

With the **COL**umns **NUM**bers attached to the studied half-period the
USER THEN WILL READS ON THE PREPARED DIAGRAM OF THE KNOT THE TYPE OF THE CROSSING AND WRITES HIMSELF THE CODE FOR THIS PARTICULAR HALF-PERIOD.

THIS WORKS WITH KNOTS MADE ON A THK SHADOW.
WHETHER THEY ARE

- **COLUMN-CODED**
- **ROW-CODED**
- **BOTH ROW AND COLUMN CODED**
- **NEITHER ROW NOR COLUMN CODED**

HOW TO USE THAT ?



FIRST : PREPARE THE DIAGRAM. Here HORIZONTAL MANDREL FRAME of REFERENCE. Just make an anti-clockwise rotation of Pi/2 or 90° to get the vertical cylinder frame of reference.

You first need to have a completed diagram of your projected knot with all the crossing clearly identifiable just as in the illustration just seen.

We will lay the cordage route CLOCKWISE
That is from BOTTOM **LEFT** TO TOP **RIGHT** for the **ODD** half-periods
and BOTTOM **RIGHT** TO TOP **LEFT** for the **EVEN** half-periods.

Then you have to number (number is to be put at the starting point for the considered half-period on the rim.) :

LEFT VERTICAL SIDE (BIGHT RIM) the **ODD** half-period beginning with 1.
EACH **ODD** half-period commence their cordage route on the l **LEFT** bight rim and goes till meeting with the right bight rim their end point and where immediately commence the **FOLLOWING EVEN** half-period.

When ALL the HALF-PERIODS **ODD** AS WELL AS **EVEN** HAVE BEEN NUMBERERD you will have to number the **COL**umns using the horizontal limits.

UPPER LIMIT IS FOR THE **ODD** half-period and as these **ODD** half periods run **LEFT** to **RIGHT** the numbering is done **LEFT** TO **RIGHT**

LOWER LIMIT IS FOR THE **EVEN** half-period and as these **EVEN** half periods run **RIGHT** TO **LEFT** the numbering is done **RIGHT** TO **LEFT** .

NEXT : USING THE HP48GX PROGRAM

- Open folder **JOAT** on the EMU48.

- Run PGR

You will have to **enter number of LEAD** and **number of BIGHT** and that is all.

In the stack you will get all the half-period with their **COL**umns where the crossings are made.
ONCE AGAIN : those are THE NUMBER IDENTIFYING THE COLUMNS NOT THE CODING OF CROSSING.

Results will be on the stack : explore bottom to top
{ } empty list is == FREE RUN
{ 3 6 10 } refers to COLumns N° 3 , N°6 and N° 10

Now knowing for each half-period the columns where a crossing exist you return to your diagram.

First Half-Period (1-H-P) 1 to 2 ALWAYS a FREE RUN devoid of any crossing

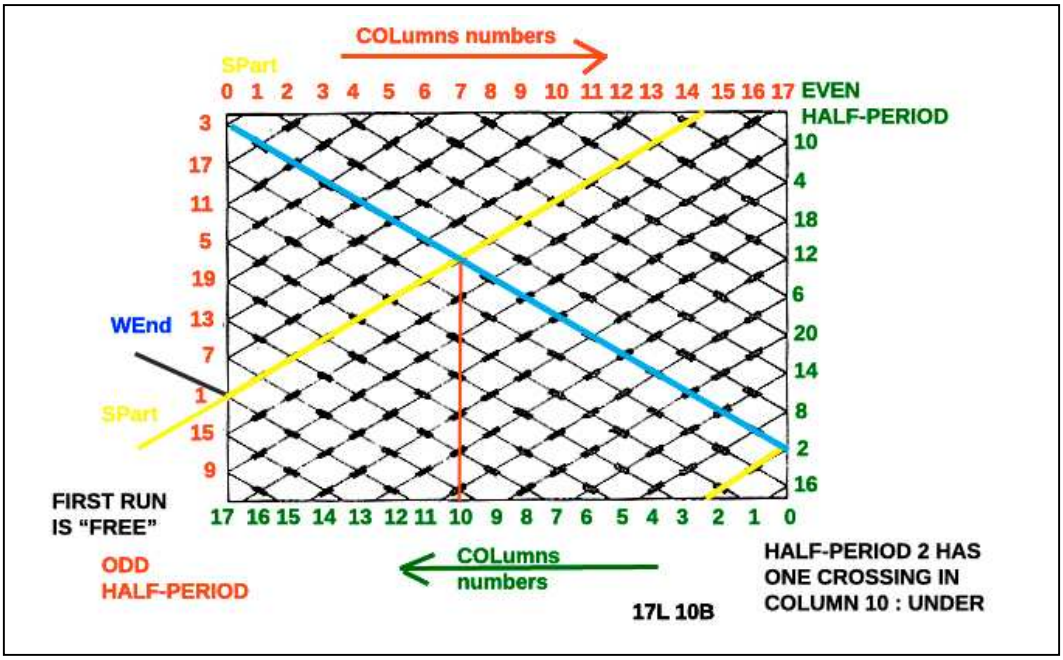
2-H-P 2 (**RIGHT**) to 3 (**LEFT**)
3-H-P 3 (**LEFT**) to 4 (**RIGHT**) and so on

till last H-P and **EVEN** one **RIGHT** TO **LEFT** RETURNING TO THE STARTING point
Last -H-P 2B to 1

Suppose that we are as in the illustration under that we are studying the second H-P (EVEN so **RIGHT** TO **LEFT**) with 2-H-p == { 10 }

Then starting from the BOTTOM horizontal line that is to be read **RIGHT** TO **LEFT** when there are more than one number between the { } then staring from the 10 mark you go up the COLumn till you met the half-period going from **RIGHT 2** TO **LEFT 3**

Then you note the type of the crossing as seen by the cordge making its route from **RIGHT 2** TO **LEFT 3** ; it is an UNDER so you now note what will be the CODING OF CROSSING
H-P-2 :UNDER
And so on half-period after half-period.



Now suppose we are studying the FIFTH hal-Period (ODD) going from
LEFT 5 TO **RIGHT 6**
You are given the **COL**umn **NUM**bers for this 5-H-P : { 3 10 13 }

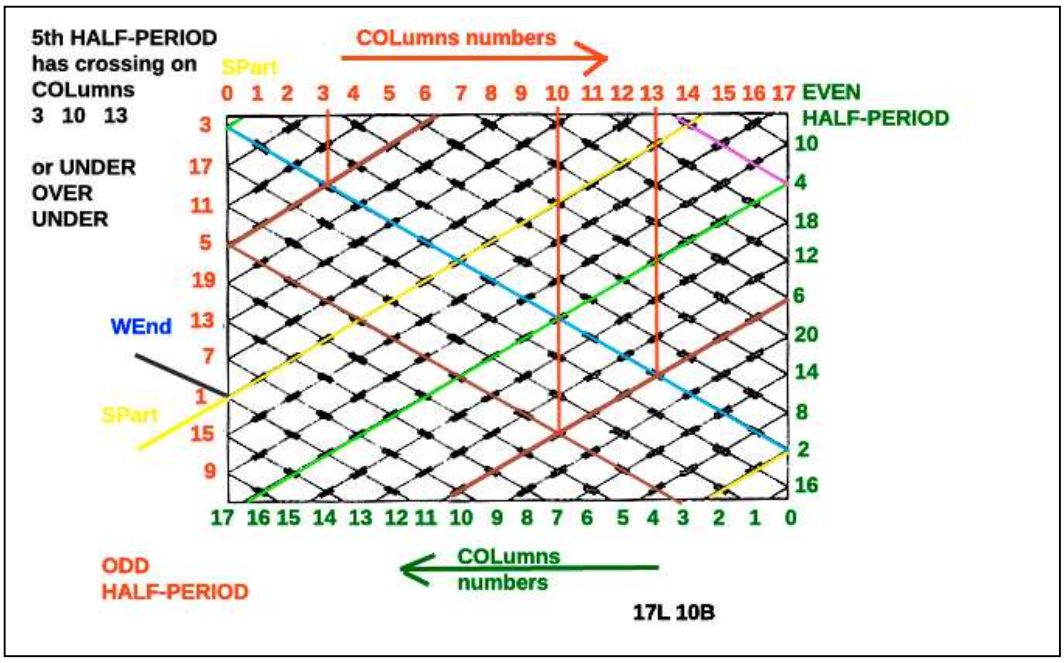
So you will read the TOP horizontal line numbering the COLumns from **LEFT** TO **RIGHT** the same directional arrow than the 5th H-P is following.

On COL 3 you go down till you meet the line figuring the 5th H-P going from **LEFT 5** TO **RIGHT 6** and you make note of the nature of the crossing that is there : UNDER

On COL 10 you go down till you meet the line figuring the 5th H-P going from **LEFT 5** TO **RIGHT 6** and you make note of the nature of the crossing that is there : OVER

On COL 13 you go down till you meet the line figuring the 5th H-P going from **LEFT 5** TO **RIGHT 6** and you make note of the nature of the crossing that is there : UNDER

You have no more COL-NUM to treat so you now have the CROSSING CODING for the 5th HP H-P-5 = UNDER – OVER – UNDER



Of course what you are manually doing it is possible to code as a program.

But it will be much more of a hassle for **YOU** :
because the sort of entries it will ask for from the user **demand the full understanding and mastery some sophisticated notions** and you will have to find "REPEATING BLOCKS units" in left side, middle and right side of the knot usually.

ALL THIS IS THANKS TO SCHAAKE & TURNER