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 **Takeda Riken Co., Ltd.**

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**INSTRUCTION  
MANUAL**

TR 4110/4110M

TR 4114/T/H/HT

Tracking Scope

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MANUAL NUMBER 1405 B 102

0997 A 004

## EXPERIMENT: 54      INTRODUCTION TO ULTIboard

### 1.2      Use of the mouse:

The Left Mouse button (LMB) selects the highlighted item from a menu or performs a function.

The Right Mouse button (RMB) returns you to the previous menu or cancels a function.

Where a series of mouse clicks is required to perform a function perhaps via two or more menus the instructions in this experiment will be written in this form and will always assume you are starting from the MAIN MENU.

Select: *Files-New-Yes-RMB...*

This means you should move the mouse until the *Files* item is highlighted, click the LMB, then from the Files menu click the *New* option, then click the *Yes* option. Finally, *RMB...* means click the RMB as many times as required to return to the MAIN MENU.

Try it! You have now cleared any PCB layout which may have been in memory and are ready to start a new one.

### 1.3      Control of the screen:

If you click the RMB once from the MAIN MENU, the main menu is cancelled which gives the *Full graphics view* (Fgv). The mouse now moves a cursor with crosshairs and you have control over what you see on the screen.

In Fgv mode you can use the hot-keys for zooming (magnifying/reducing) and panning (moving the field of view). The hot-keys are:

[F7] = Full zoom	[F8] = zoom in (magnify)
[F9] = zoom out (reduce)	[F10] = manual pan

Try zooming out so you can see the entire PCB, then zoom in again.

The screen will pan automatically if you move the cursor to the edge of the screen. If it doesn't, the Auto pan feature is turned off. It can be turned on again by selecting: *Preferences-Auto pan-1/4 screen.*

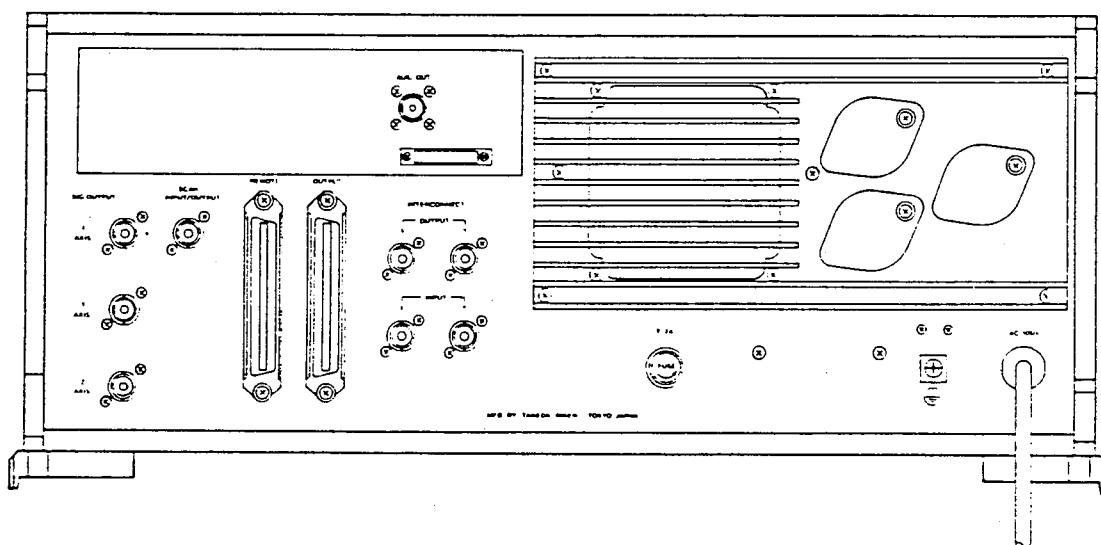
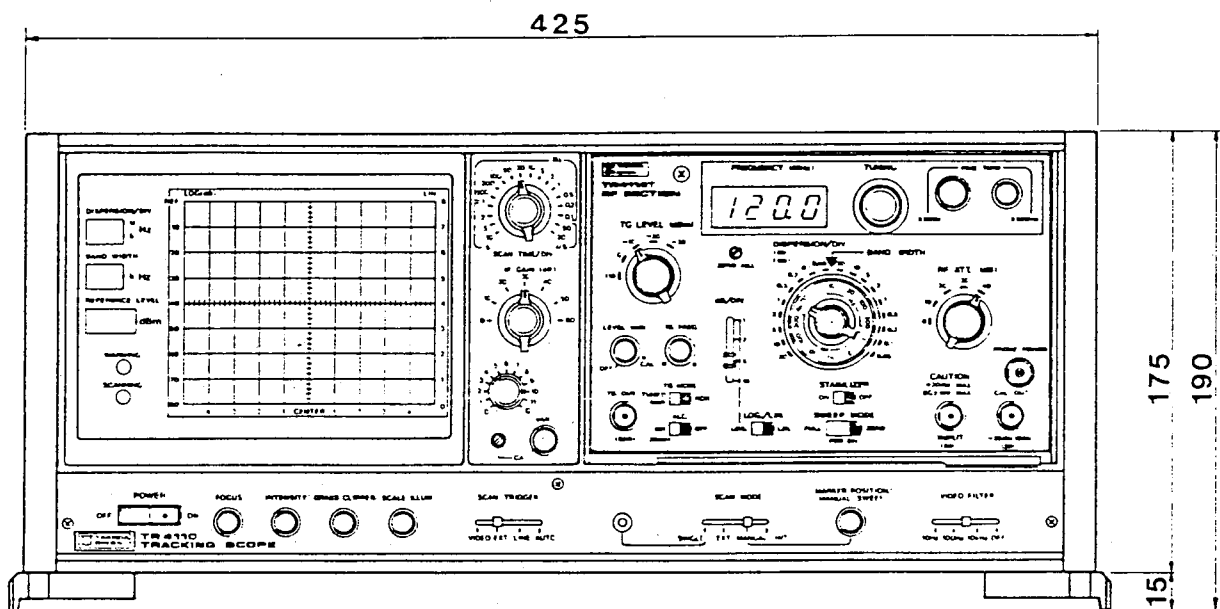
If you prefer a smaller pan increment,  
select: *Preferences-Auto pan-1/16 screen.*

A drawing "grid" is always used to define the position of components and tracks you draw. It can be made visible or invisible:

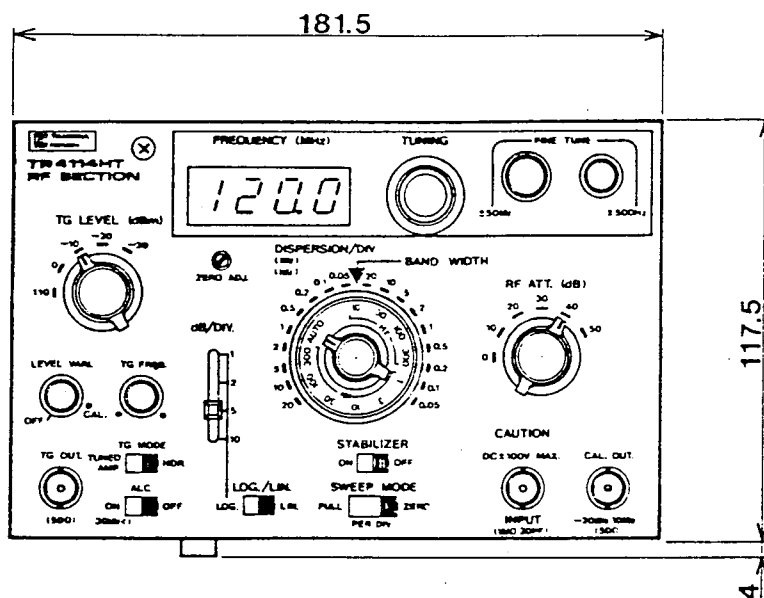
Select: *Display-Items-Visual grid-RMB...*

The size or "resolution" of the grid can also be changed:

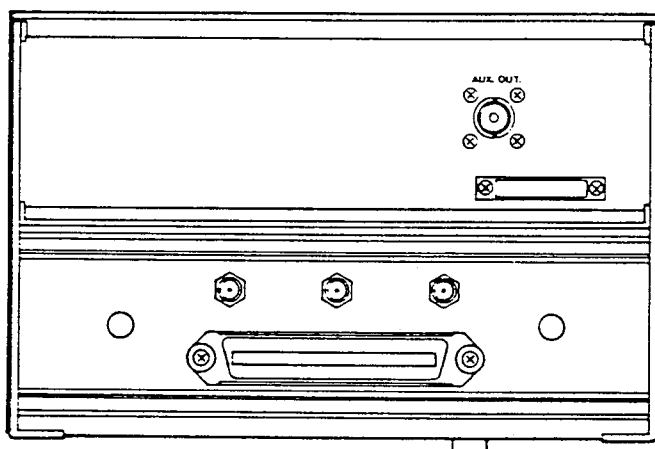
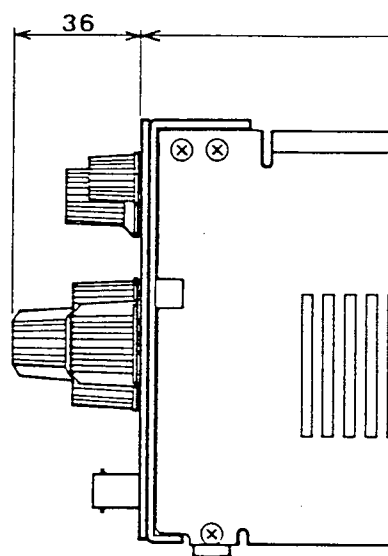
Select: *Display-Visual Grid* and type in the value you require. The default is 120/1200" or 100 mils (0.1")



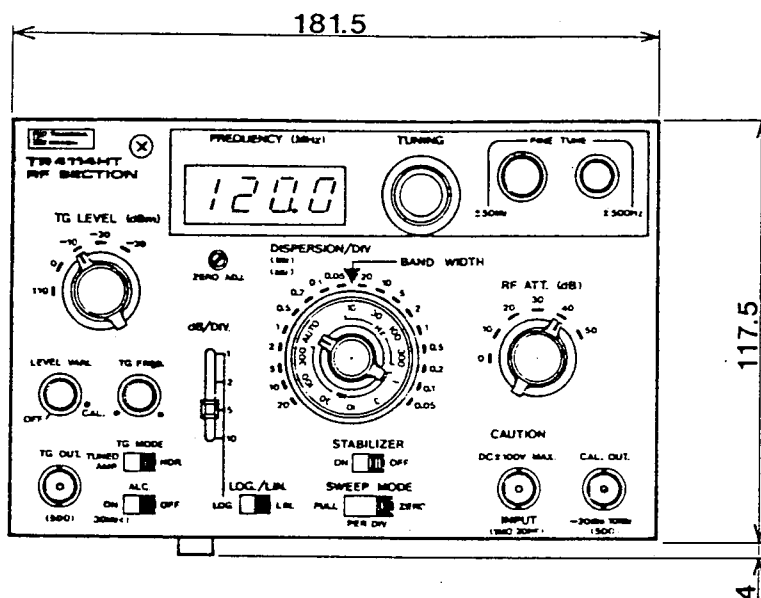




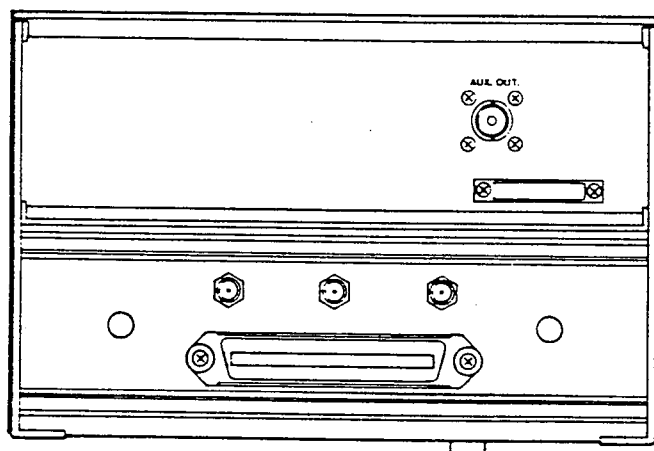
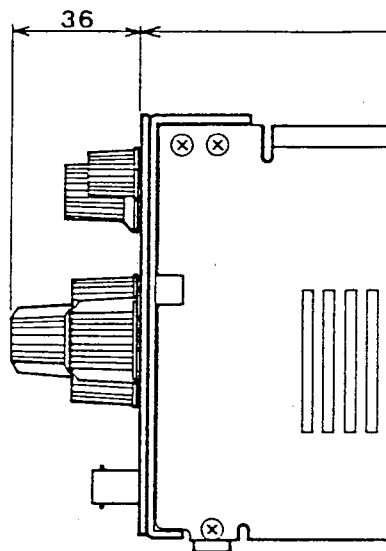
FRONT VIEW



REAR VIEW



FRONT VIEW



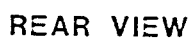
REAR VIEW

The image shows the front panel of the TR-4010 Tracking Scope. The panel is divided into several sections:

- Left Section:** Contains a large grid display with a central horizontal line. To the left of the grid are four vertical sliders labeled "DISPERSON/TUN", "BAND WIDTH", "REFERENCE LEVEL", and "CALIB". Below these are two buttons labeled "MANUAL" and "SCANNING".
- Center Section:** Features two large rotary knobs labeled "SCAN TIME/ON" and "CALIB", and a smaller knob labeled "C".
- Right Section:** Includes a digital display showing "1200", a "FREQUENCY" knob, and a "TUNING" knob. Below these are several smaller knobs and buttons, including "TO LEVEL", "DISPERSON/TUN", "BAND WIDTH", "STABLE LOCK", "CAUTION", "RETRY", and "STOP".
- Bottom Section:** Contains a row of controls including a "POWER" switch (OFF, ON), a "FOCUS" knob, an "INTENSITY" knob, a "GRASS CLIPPER" knob, a "SCALE ALUM" knob, a "SCAN TRIGGER" knob, a "SCAN MODE" knob, a "MARKER POSITION" knob, and a "VIDEO FILTER" knob.

The overall design is functional and typical of electronic test equipment from the late 20th century.

FRONT VIEW



The image shows the front panel of a Tektronix 175 Tracking Scope. The panel is divided into several sections. On the left is a large grid display with a central horizontal line and vertical lines. Above the grid are controls for 'CH INPUTS/TIM', 'BASED SPOT', 'REFERENCE LEVEL', and 'MARKING'. To the right of the grid are two large knobs for 'SCAN TIME/ON' and 'SCAN TIME/OFF', and a smaller knob for 'SCAN TIME/ON'. The center section features a digital display showing '12.00', a 'FREQ. HZ' knob, and a 'TUNING' knob. Below the display are controls for 'TO LEVEL', 'DISPOSITION/TIM', 'BASED SPOT', 'STABILIZER', 'CAUTION', and 'SCALING'. The bottom section contains a 'POWER' switch, 'FOCUS', 'INTENSITY', 'BRASS CLIPPER', 'SCALE', and 'BLUR' controls. On the right side of the bottom section are 'SCAN TRIGGER', 'SCAN MODE', 'MARKER POSITION', and 'VIDEO FILTER' controls. The Tektronix logo and 'TRACKING SCOPE' are printed at the bottom left.

FRONT VIEW



(2)