

**TEK** SPECTRUM  
ANALYZERS

070-8297-01  
Product Group 2E

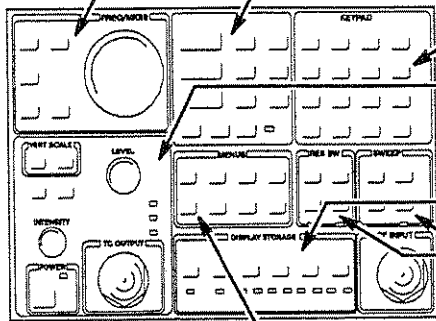
**THE**  
**2712**  
SPECTRUM  
ANALYZER




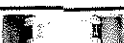
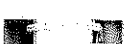
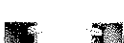



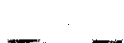
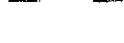
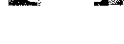



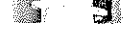
**Pocket  
Reference**

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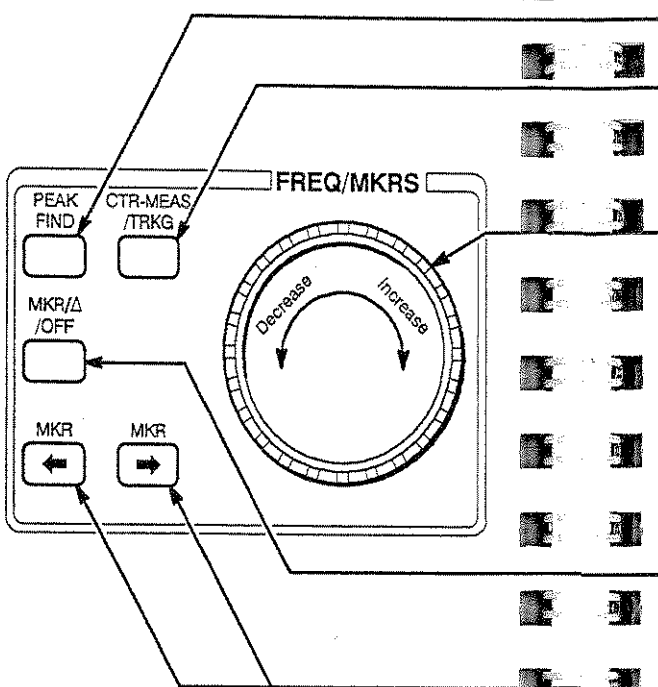
**Tektronix**  
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# Frequency/Markers Controls



Moves marker to highest on screen signal.

Press once for center measure (counts signal)  
Press twice for signal track mode.  
Press again for tracking off.

Depending upon mode, FREQ/MKRS knob changes:

- Center or start freq
- Marker position
- TG tracking (opt. 04)
- Video line number for triggering (opt. 10)

Knob also selects letters for titles and labels.

Press once for single marker.  
Press twice for two markers.  
Press again for markers off.

**FREQUENCY** + Numeric keys + Terminator key for direct entry.

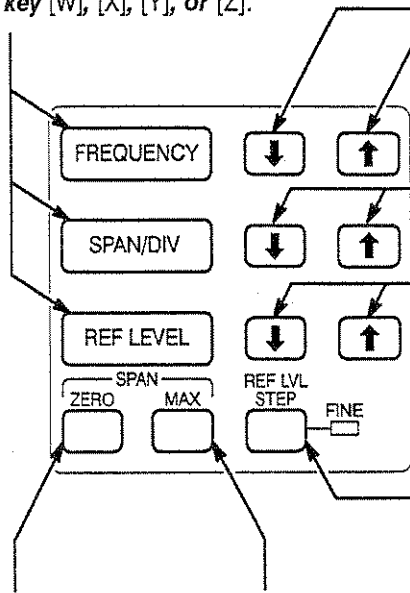
FREQ ↓ or ↑ for incremental steps.

[MKR/FREQ][9][0] to select center or start freq.

Moves markers left or right to next on-screen signal above threshold.

## Fundamental Controls

Selects frequency, span/div, or ref level for immediate entry. Enter value from keypad and end entry with terminator key [W], [X], [Y], or [Z].



Press once for zero span mode (time domain); second press restores previous span/div.

Press once for zero span mode (180 MHz/div); second press restores previous span/div.

Decrease (↓) or increase (↑) frequency by one division in auto tuning mode or by the designated increment in other modes. ALWAYS ACTIVE.

Decrease (↓) or increase (↑) span/div in 1-2-5 sequence. ALWAYS ACTIVE.

Decrease (↓) or increase (↑) ref level in 1 dB or 10 dB steps. ALWAYS ACTIVE.

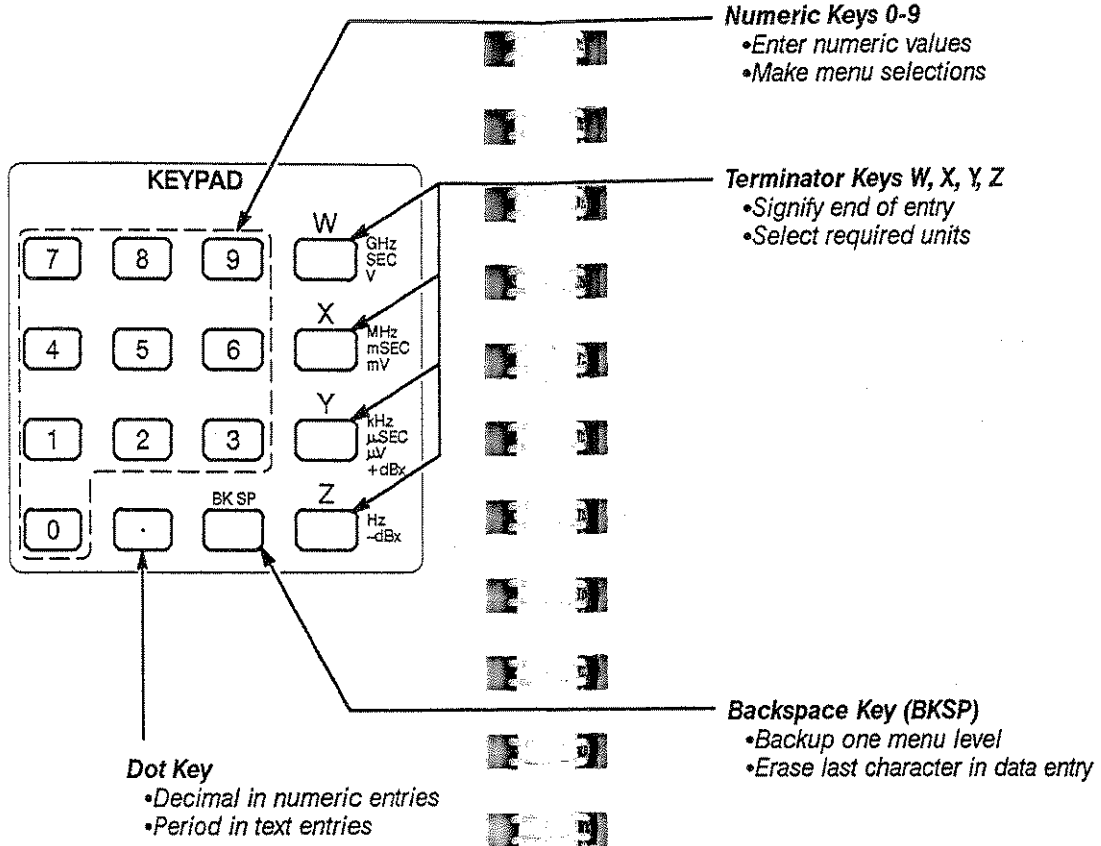
Toggles ref level step size between 1 dB (FINE LED on) and 10 dB (FINE LED off).

Choose REF LEVEL units: [INPUT][3][0-5]

[REF LVL STEP] toggles step size (LED lit for 1 dB steps)

Select fixed RF Atten value in 2 dB increments or AUTO Atten: [INPUT][5]

## Numeric Keypad



# Vertical Scale, Demodulator, TG, and Display Controls

Initiates screen plot

Toggles vertical scale between LIN and LOG modes.

Press repeatedly to select LOG vertical scales in 10-5-1 dB sequence.

Controls volume of AM or FM demodulators.

- Inner knob controls:
- "Oscilloscope" trigger modes
  - Sweep position (manual scan mode)
  - TG variable level (when activated)
  - Picture framing (video monitor mode).

Toggles on-screen readouts on and off.

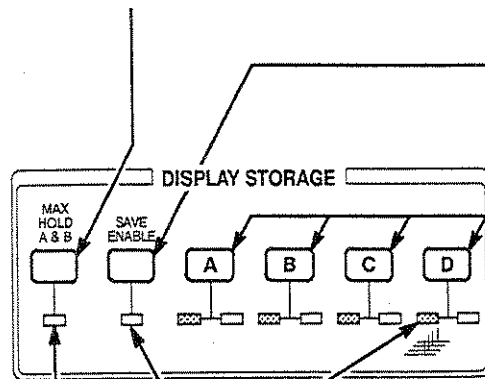
Toggles power on (LED lit) and off.

Tracking generator output connector and indicator (Option 04 only). LED is lit when tracking generator is on.

Varies CRT brightness.

## Display Storage Controls

Activates MAX HOLD mode. In MAX HOLD mode the A & B registers (if active) retain the largest signals observed.



Lights when MAX HOLD is active.

Lights when waterfall mode is active.

Lights when SAVE ENABLE is armed.

To enter waterfall mode:

- First clear the A, B, and C registers
- Press [SAVE ENABLE][D]

To exit, press [SAVE ENABLE][D]

Press to arm SAVE ENABLE, then press register A, B, or C to save or clear (unsave).

Toggles the indicated register (A, B, C, D) on or off, and saves (or clears) the display in the selected register when SAVE ENABLE is armed. Individual waveforms cannot be saved in the D register.

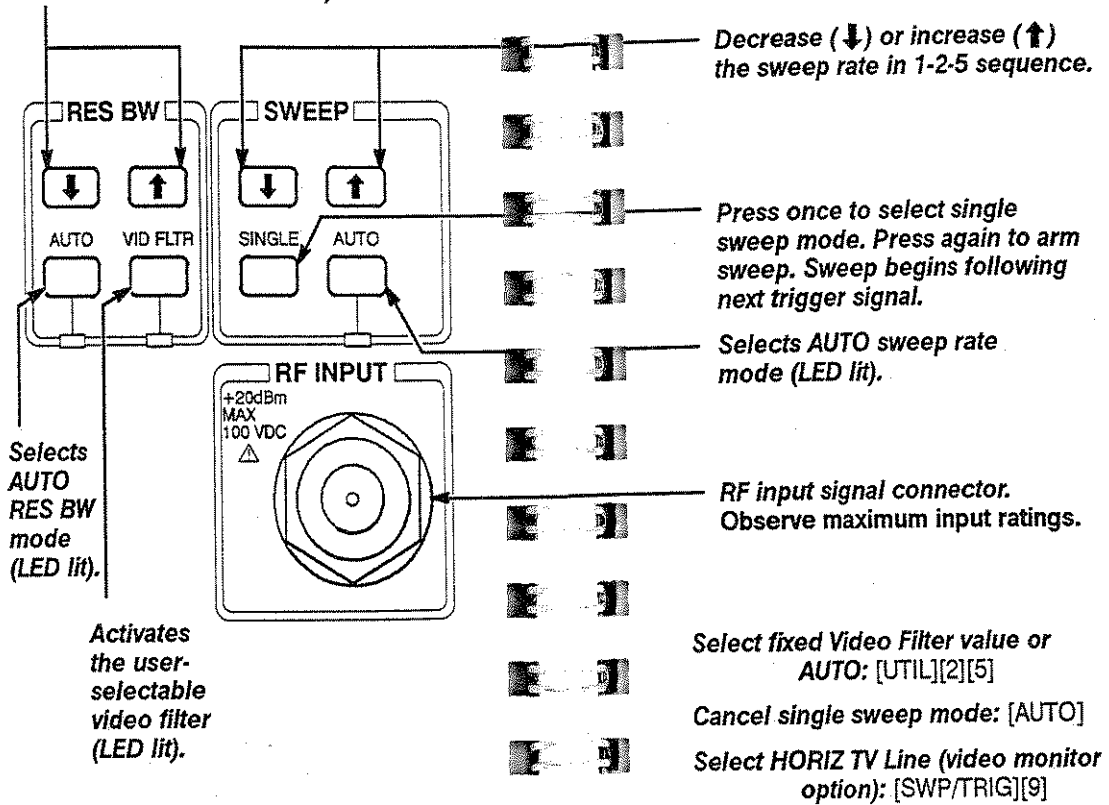
Green LEDs light when A, B, or C register contains a saved waveform, whether displayed or not.

Red LEDs light when indicated register (A, B, C, D) is displaying a waveform.



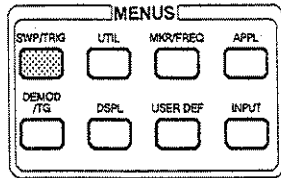
## Resolution BW and Sweep Controls

Decrease (↓) or increase (↑)  
the RBW filter bandwidth (or just  
the EMC filters in QP mode).



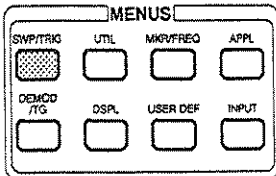
### TRIGGER Menu

- 0 FREE RUN
- 1 INTERNAL
- 2 EXTERNAL
- 3 LINE
- 4 TV LINE
- 5 TV LINE



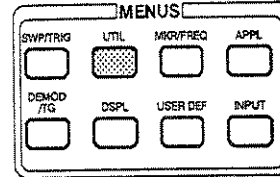
### SWEEP Menu

- 6 SWEEP RATE
- 7 MANUAL SCAN POSITION
- 8 SYNC POLARITY
- 9 SETUP TABLE  
Configures HORIZONTAL TV LINE  
Triggering (Video monitor option only)
  - 0 Continuous
  - 1 Knob selectable
  - 2 Keypad entered line
  - 3 Keypad entry
  - 4 TV line standard



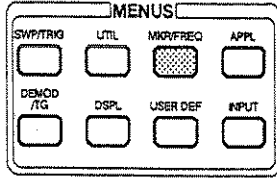
### UTIL Menu

- 0 INITIALIZE INSTR SETTINGS
- 1 STORED SETTINGS
  - 0 Last power-down
    - 1 Factory default power-up
    - 2 User defined power-up
    - 3-39 Stored setting/display registers
- 2 KEYPAD ENTERED SETTINGS
- 3 NORMALIZATIONS
- 4 SYSTEM CONFIGURATION
  - 0, 1, 2 Comm port, screen plot, and printer config
  - 3 Instrument config
  - 4 Real-time clock setup
  - 5 Stored settings protect
  - 6, 7 File system
  - 9 Installed options
- 5 INST DIAGNOSTICS/ADJUSTMENTS  
[UTIL][5][2][2] for screen alignment pattern
- 6 SERVICE REQUEST
- 9 MORE  
Print readouts (RS-232 option only)



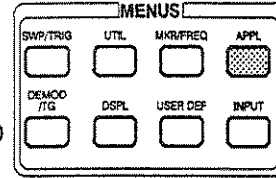
### MKR/FREQ Menu

- 0 THRESHOLD
- 1 PROGRMD TUNING INC
  - 0 Center freq
  - 1 Marker freq
  - 2 Keypad entered inc
  - 3 Keypad entry
  - 4 Return to auto
- 2 KNOB FUNCTION
- 3 MARKER TO REFERENCE LEVEL
- 4 MOVE MARKER TO NEXT PEAK
- 5 TRANSPOSE MARKERS
- 6 MARKER START/STOP
- 7 FREQUENCY START/STOP
- 8 TUNING INCREMENT
  - Auto, progrmd, or tabular
- 9 SETUP TABLE
  - 0 Center/start freq
  - 1 Counter resoln
  - 2 Tabular tuning tables
  - 3 Freq offset
  - 4 Freq offset mode



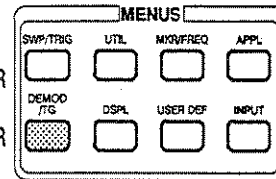
### APPL Menu

- 0 BANDWIDTH MODE
- 1 CARRIER TO NOISE
- 2 NOISE NORM'D
- 3 SIGNAL SEARCH MENU
- 4 OCCUPIED BW
- 7 FM DEVIATION MODE
- 9 SETUP TABLE
  - 0 db down for BW mode
  - 1 Norm BW for c/n
  - 2 Noise norm'd BW
  - 3 Percent occupied BW



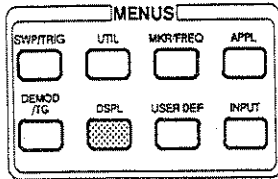
### DEMOD/TG Menu

- 0 OFF
- 1 AM DEMODULATOR
- 2 FM DEMODULATOR
- 3 BROADCAST (AM) VIDEO/ SATELLITE (FM) VIDEO SELECTION MENU
  - (Video monitor option only)
- 4, 5, 6, 7, 8 TRACKING GENERATOR CONTROLS
  - (Tracking generator option only)
- 9 VIDEO MONITOR SETUP
  - (Video monitor option only)



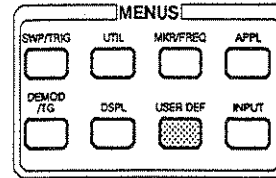
## DSPL Menu

- 0 DIGITAL/  
ANALOG
- 1 ENSEMBLE  
AVERAGING
  - 1 Initiate  
averaging
  - 2 Terminate  
averaging
  - 3, 4, 5, 6 Max, Mean, Min, and Min/Max
  - 7 Number of averages
  - 8 Save results in display (A, B, C)
- 2 B, C MINUS A
- 3 B, C MINUS A OFFSET TO (Center or Top)
- 4 ACQUISITION MODE (Peak or Max/Min)
- 5 TITLE MODE
- 6 GRATICULE ILLUMINATION
- 7 DISPLAY SOURCE (Internal (AM) or  
External)
- 8 DISPLAY LINE
  - 1 On/off
  - 2 Value entry
  - 3 Display line to marker
  - 4 Limit detector
- 9 MIN HOLD



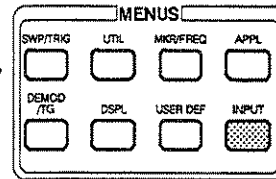
## USER DEF Menu

- 0-8 USER  
DEFINED  
PROGRAMS
- 9 USER DEF  
PROG  
UTILITIES
  - 0 Acquire key  
strokes
  - 1 Title edit
  - 2 Wait for end of sweep
  - 3 Display message
  - 4 Pause for "USER DEF" key
  - 5 Continuous execution
  - 6 Store
  - 7 Delete
  - 8 Protect



## INPUT Menu

- 1 PREAMP
- 2 50 OHM DBM/  
75 OHM DBMV
- 3 REF LEVEL  
UNIT (dBm,  
dBmV, dBV,  
dBμV, dBμW, or  
dBμV/meter)
- 4 1ST MXR INPUT LVL (-20dBm to  
-50dBm, -30dBm nominal)
- 5 RF ATTENUATION
- 6 EXTERNAL ATTEN/AMPL
- 9 CAL SIGNAL @ 100MHZ -30DBM



## Control Ranges

Frequency range: 9 kHz to 1.8 GHz

Span/div range: 1 kHz to 180 MHz plus zero span

Ref level range: +20 dBm to -70 dBm or equivalent

RES BW filters: 300 Hz, 3 kHz, 30 kHz, 300 kHz, and 5 MHz

All RES BW filters are 6 dB width,  $\leq 7:1$  shape factor

Option 12 replaces 300 Hz filter with 200 Hz filter and adds 1 kHz, 9 kHz, 120 kHz, and 1 MHz

Option 14 adds 1 kHz, 10 kHz, 100 kHz, and 1 MHz

RF attenuation range: 0 dB to 50 dB in 2dB steps

Vertical scale: 10/5/1 dB per division plus linear

Video filters: 1/100 of the RES BW in AUTO mode, or 3 Hz to 300 kHz plus WIDE in 1-3 sequence

Sweep rate: 1  $\mu$ sec/div to 2 sec/div (settings  $\leq 100$   $\mu$ sec/div require an analog display)

Trigger modes: Free run, Internal, External, AC line, TV line, TV field, Single sweep (option 10 required for selectable TV line triggering)

Tracking generator (option 04):  
Frequency: 100 kHz to 1.8 GHz  
Level: -48 dBm to 0 dBm in 0.1 dB increments and variable control