

Table of Contents

Hints and Tips	15	545B's First Repair	97
Restoring a Tek	16	Fixing a Working Power Supply	98
Tektronix Colors	18	Fixing a Non-Apparent Fault.....	103
Plastics Colors	21	Fixing a Faulty Power Supply.....	104
Optical Filters	22	The Horizontal Chain.....	107
Key Labels	24	Bumblebees	109
Semiconductors	31	Checking the Horizontal Chain	110
Ripple	32	Sweep Switches.....	112
Hz, Fans & Noise	34	Delaying Sweep TIME/CM.....	117
Relays	39	Main Sweep MULTIPLIER	118
Switches & Buttons.....	45	Sweep Amplifier Chassis.....	119
Dealing with Gold	46	Main Sweep Chassis	121
Light Pushbuttons.....	50	The Delaying Sweep Generator	122
Lamps	55	Delaying Sweep	124
LED Lights.....	56	Horror! An HP Oscilloscope?.....	127
Risky Connectors	59	Delaying Sweep Chassis	128
Elapsed Time	60	The Murder(s).....	130
Radioactivity.....	63	Vertical Amplifier	134
Plug-in Panels	64	The Distributed Vertical Amplifier.....	136
Tubes Test.....	66	High Voltage Circuits.....	139
Gassy Tubes.....	68	High Voltage Circuits	140
Other Tools	70	Producing High Voltages	143
Ceramic Strips	73	High Voltage Areas	144
Shield Gaskets	74	High Voltage Module	147
Fixing the Epic 545	77	Its First Words	148
Tektronix 545	78	7xx3 Linear PSUs	151
Poor Teddy Bear!	81	Start Knowing Them	152
Information Sources.....	83	Block Diagram	154
LV Power Supply	85	Boards Location.....	156
Differential Amplifiers	86	A Linear PSU	158
Component Layouts	88	Theory of Operation	160
Power Supply Chassis (1/2)	88	Physical Construction	166
Power Supply Chassis (2/2)	90	Mainframe Wiring	170
Added Reference Designators.....	93	Checking the PSU	172
Rectifiers and Relays.....	94	Problem Fixing	174

Table of Contents (cont'd)

High Voltages and CRT circuits	195	7854 Addenda.....	293
Repairing CRT Circuits	196	Shark Mouth.....	294
A DC Restorer Example	203	A Revised HEPS	296
Dealing with High Voltages.....	204	Dead?.....	298
Sample Values.....	208	7834 Recapping	301
A Spark of Mystery.....	210	Capacitors	302
Mastering the HEPS	213	7834 Recapping	304
The Bad Beast.....	215	The Dummy Load	306
High Efficiency Power Supply	216	HEPS not Guilty	309
The Bad Beast.....	218	HEPS Not Guilty	310
The Boards of Interest.....	220	Plug-in Connections	323
The Dreaded Click.....	222	Plug-in Connectors.....	324
Investigation Strategy	224	7904 Main Interface Board	328
Extracting the HEPS	226	Readout System	333
The Inverter	232	Readout System	334
The Controller IC	234	Readout Board Map and Conns.....	349
The Red Zone.....	237	A Thorn in the Side	350
Safety Cautions	238	CRT Storage.....	363
Investigations	240	Calibration.....	365
More Oscillograms	245	Fixing CRT Storage	366
The LV Board	247	TOC Topic	372
-50V Circuit From The 7844 Manual.....	248	Save Your Fingers	378
Differential Amplifiers	250	Fixing the 515A.....	381
Colors Can Help	258	515A Small Repairs	382
Conclusions.....	259	Wrong Supply.....	384
That Magic Moment	260	Low High Voltage	386
Hi-Voltage Board.....	263	Horizontal Linearity.....	388
HV Board Encyclopedia.....	264	Last Cosmetics.....	390
Connect to the LV Board	278		
Connect to the Z-Axis	280		
HEPS to 7904 Wires.....	282		
Theory and Practice.....	284		
The End of the Battle	290		