

## SOLVING PROBLEMS IN THE A12, A16, A19 AND A22 CHASSIS

By G. Erickson, G. Snyder, Sylvania Engineering Dept.

### HORIZONTAL OSCILLATOR

1. Will not operate or will not start (FET OK) (as checked by scope on drain of FET).
  - A. Isolate oscillator by opening SC404 or R424 and by shorting R414, R412, R410 common point to ground.
  - B. Check B+ (+15V). Should read greater than 10 volts.
  - C. Check B+ at FET drain (Point D on schematic). Should read 2-3 volts less than in B above. If reading is less than 5 volts, then there is a short on the drain to ground, or the source point S is shorted to ground.
  - D. Check for oscillation at drain Point D with scope. If oscillating, problem is not in the oscillator.
  - E. Read resistance on source (Point S on schematic) to ground (1.8K with FET removed, 700-1.2K with FET in circuit).

If reading is too high, R422 is bad or FET is open.  
If reading is too low, check R422, C416, C414.
  - F. Check resistance from C410, C414 point to ground. Resistance approximately 170 ohms.

Reading too high, check L400 or leads to L400.  
Reading too low, short circuit on L400 or C414 is shorted.
  - G. Measure resistance across C410.

With FET removed, should read greater than 200K. If not, C410 or R412 or gate point shorted.  
With FET in circuit, should read greater than 200K in one direction and 1K - 5K in other. If not, C410, R412, or gate shorted.
2. If horizontal oscillator is intermittent:
  - A. Replace FET.
  - B. Check socket.
  - C. Check for intermittents in wiring and PC panel.
  - D. Replace C416, C414, and C410. Can be intermittent internally.

### HORIZONTAL DRIVER

If horizontal driver fails, damage may occur (besides Q402) to T400, R426, and R506 and R507. R507 is not used on A12.

These parts should either be checked or replaced.

Check horizontal driver transformer T400 by measuring the primary resistance. Should be between 60 and 90 ohms.

### MONEY FOR JOY?

"Happiness is not with money but with ourselves."

That's what the older man told the sad young man seated opposite him.

"But I'd be able to buy anything if I had it," argued the young man.

"You still can't buy true friendship, the smile of a child, a good night's sleep, the wag of a dog's tail, and most important, your health."

"Sounds corny," replied the young man.

"You're probably right. Those things are like pie-in-the-sky answers to one who is as sad as you seem to be and as poor as you think you are."

"Right!" agreed the young man. "It still takes money to live."

"It does and it doesn't," said the old man. "And I won't bore you with my troubles, but hear me out. I'm very rich and I've got stomach cancer. No amount of money will buy me life."

"But doctors today . . ."

"The doctors today told me another operation would finish me."

"Sorry."

"I'd give away all my money for my health."

"I'm sorry," the young man said again.

"Be happy you have a healthy you and enjoy Christmas. I will! For as long as I live . . ."

## Notes from the Field

D16 OR D19 REMOTE CHASSIS. WEAK REMOTE SENSITIVITY WHEN HIGH VOLTAGE IS ON.

Shim flyback with cork padding and just snug chassis mounting screws.

EDITORS NOTE: Mechanical vibration from the flyback on any remote control set will be picked up by the transducer. The receiver is saturated by this noise pick up and becomes insensitive.

*Joe Richard, Chief Technician, Sylvania Service Company, Cleveland, Ohio.*

E02 CHASSIS. COMPRESSION OF SCANNING LINES, (ABOUT 3/4" WIDE) NEAR TOP OF RASTER - MOVING DOWN IN RASTER AFTER SET WARMS UP. ADJUSTING THE PIN CUSHION COIL MOVES THIS BAND OF COMPRESSED SCANNING LINES.

Defective R377 across the Pin Cushion transformer. Replacing resistor corrected the problem.

*Ken Hughes, Boyd Distributing Company, Denver, Colorado.*

E04 CHASSIS. NONE OF THE NEON BULBS WOULD LIGHT WHEN TOUCH-TUNE BUTTON TOUCHED.

Open 210V - winding of Power transformer - all other voltages measured normal. Replacing the transformer corrected problem.

*Ernest Randel, Randel TV, Greenburg, Kansas.*

E1104 REMOTE CHASSIS. REMOTE MOTOR CONTINUES TO RUN - TUNING VOLTAGE MEASURES LOW.

Shorted varactor in UHF tuner.

*Don Grover, CET, Ave. Rental & Sales, Junction City, Kansas.*

E04-1 CHASSIS. INTERMITTENT LOSS OF COLOR AND SYNC.

IC606, 15-37702-1, (Service clue: R712 has no effect for AFC set up).

E11-3 CHASSIS. DEAD, CIRCUIT BREAKER TRIPS.

T400 H.O.T. short. TE-1, 135V part reads 10 ohms.

MODEL CRT2730. WEAK AUDIO, ONE OR BOTH CHANNELS.

1 or 2 contacts of SW S-S through S-9 shorting to ground.

*Kevin Hall, Stewart Appliances, Elyria, Ohio.*

A16 CHASSIS. NO HORIZONTAL SYNC.  
470PF, C410 shorts.

D180454 CHASSIS. WEAK VERTICAL HOLD.

SC322 leaky. Changing height adjustment. Increase hold. As adjustment was made for full screen, hold would be weak. Voltage on emitter of Q316 was 11V.

*Empire State Wholesalers, Inc., Latham, New York.*

E060101 CHASSIS. SET DEAD. NO VERTICAL DEFLECTION.

SC530 shorted; IC302.

*Hi Fi Shop, Inc., Massena, New York.*

R67-3 CHASSIS. INTERMITTENT LOSS OF LEFT CHANNEL.

Printed circuit cut on the upper switch printed circuit board. (in pin no. 13 circuit).

*Ross Teal, Meyerson Distributing Co., Council Bluffs, Iowa.*

R67-3 CHASSIS. SOUND LEVEL DOWN ON BOTH CHANNELS.

Shorted Q608, Audio mute FET. The gate of Q608 is connected to the gate of Q708 (in other channel). A short in one will mute both channels.

*Ennis Williams, FSDM, Omaha, Nebraska.*



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**AVOID MISTAKES - ORDER PARTS BY PART NUMBERS**