3T2 Calibration Outline

1. -19V Supply (R841) — ±1% 3mv ripple.

2. +19V Supply (R821) — ±1% 3mv ripple.

3. Check -27V Supply — 25.1V to 28.9V

Presets	
Range	10us
Start Point	With Trigger
Display Mode	Normal
Trig. Sens.	cw
Recovery Time	Midrange
Samples/Div	100

4. Output TD Bias (R82) — 8 to 12 cycles ahead of negative step at pulse out connector. (Test scope- .1us & pulse at least 150mv.)

5. Trig Sens Bal (R72) — Sweep turn off at 12 o'clock.

Presets	
Display Mode	Manual

6. Horiz. Gain (Front Panel) — Set for 10 cm of Manual Scan.

Presets	
Display Mode	Normal
Start Point	With Trigger

7. 1us With Trigger Sweep Cal (R336) — Range Switch to 10us, 1us markers

8. 10ns With Trig. Sweep Cal (R329) — Range Switch to 100ns, 10ns marks

9. Check 1us, 100us, & 1ms Ranges ±3%

10. Check Single Sweep

Presets	
Range	10us
Start Point	Before Trigger
Display Mode	Normal
Trig Sens	cw

11. DC Zero (R376) — Zero Volts at bottom of waveform at Q371 base.

3T2 Calibration Outline (cont.)

Presets	
Display Mode	Manual
Manual Scan	Centered

12. Horiz. Output Zero (R516)

Use Q531 base (case) voltage as reference (abt 1v). Adj R516 so that top of waveform at base of Q501 (pin BF) is abt .3v less positive than Q531 base voltage.

13. Servo Loop Bal (R536)

Adj R536 for the same voltage at the cases of Q533 & Q531. (Alternate Method- No spot movement from With Trig to Before Trig.)

Presets	
Start Point	Before Trigger
Display Mode	Normal
Range	10us
Samples/Div	Variable

14. 1us Before Trigger Sweep Cal (R348)

Range Sw. to 10us, 1us marks.

15. Check 1us, 100ns, 100us, & 1ms ±3%

16. 10us Slewing Ramp (R269)

Range 10us. Equal staircase amplitudes at bases of Q533 & Q531.

17. 100ns Slewing Ramp (C265)

Range 100ns. Same as #16.

Presets	
Time Position	ccw
" " Fine	cw
Range	100us
Trig Sens	~~N~~ cw

18. Time Position Zero (R364)

Adj R364 for no change in position of the start of the sweep when Time Position moved cw. (Most ccw position of R364)

Presets	
START POINT	WITH TRIG.
Range	10us
Time Position	cw
" " Fine	cw

19. Lead Time (R231)

Pulse Out to vertical input. Adj R231 to ~~center~~ SET falling edge of pulse on screen ~~AT~~ 6TH CM FROM LEFT EDGE.

3T2 Calibration Outline (cont.)

Presets	
Display Mode	Manual
Manual Scan	Centered
Time Position & Fine	Centered

20. 1ms Correction (R622) — Adj R622 for no spot movement when switching from 100us to 1ms.

21. 100 Dots/Div (C452) — 10ns sinewave. Range 10us. Adj C452 for 5 cycles or less.

22. Check Timing ±3% — Start Point With Trigger.

23. Trigger Kickout — ±20mv

24. Digital Functions

Range	Magnifier	Decimal	Units
1ms	X1, 2, 5 10, 20, 50	0.000 000.0	ms us
100us	X1, 2, 5 10, 20, 50	000.0 00.00	us us
10us	X1, 2, 5 10, 20, 50	00.00 0.000	us us
1us	X1, 2, 5 10, 20, 50	0.000 000.0	us ns
100ns	X1, 2, 5 10, 20, 50	000.0 00.00	ns ns

General Information

This change in the adjustment of the Lead Time, R231, control is to ensure adequate lead time when the Type 3T2 is operated with the Type 3S2.

TEXT CORRECTIONS

Section 7 Calibration Procedure

Page 7-4

CHANGE: Step 22 to read as follows:

22. Adjust Lead Time Page 7-22

Falling edge of PULSE OUT waveform is at center of graticule.

Page 7-22 22. Adjust Lead Time

CHANGE: portions of Step 22 to read as follows:

b. Set the RANGE switch to 10 µs and the START POINT switch to WITH TRIGGER. Set the HORIZ POSITION control so that the trace starts at the edge of the graticule.

c. Set the START POINT switch to BEFORE TRIGGER and check that the falling edge of the waveform is at the sixth graticule line (see the corrected Fig. 7-26A in this insert).

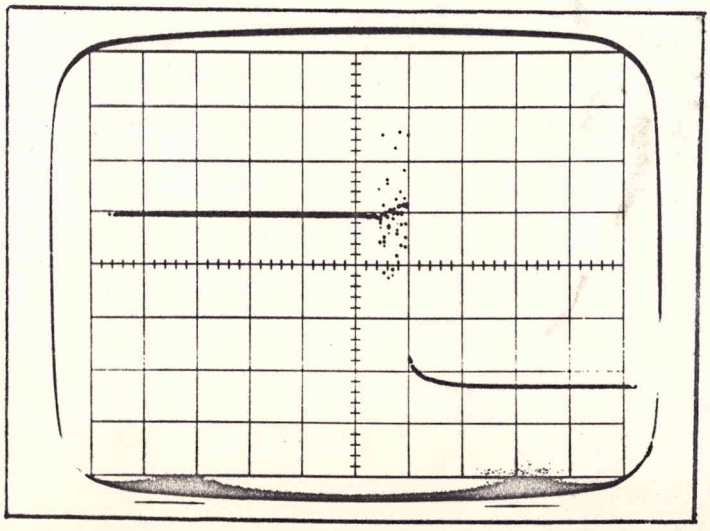


Fig. 7-26(A)

d. Adjust R231, LEAD TIME (Fig. 7-26B shows the location) to place the falling edge of the waveform at the sixth graticule line.

e. Disconnect the coaxial cable.

General Mod Information

An adjustment potentiometer is added to the MANUAL SCAN circuit to allow cross correlation of timing calibration and HORIZ GAIN adjustment between a Type 568/230 Digital System and the MANUAL SCAN calibration provided by Step 9 of the calibration procedure in this manual. Instruments are now calibrated at the factory in the Type 568/230 Digital System.

The new control is physically located on the instrument lower right side, on the front side of the bulkhead that holds the SAMPLES/DIV switch.

TEXT CORRECTIONS

Section 4 Circuit Description

Page 4-19 right column, 3 rd paragraph of "Staircase E. F. Out and DISPLAY MODE Switch". Insert this new paragraph in place of the old text.

In instruments up to SN B020160, the manual scan voltage drive to Q480 is limited to a calibrated 0 V to 15 V value by the voltage divider R472-R473 Instruments SN B020160 - up, have an adjustable control in the voltage divider, R474, which allows the +15 V manual scan voltage source to be accurately set.

Section 7 Calibration

Page 7-11 right column, Step 9

Insert new part (a.) of Step 9.

a. Set the DISPLAY MODE switch to MANUAL, turn the MANUAL SCAN control fully clockwise. Connect a precision non-loading voltmeter between ground (-) and R474 (Man Scan Cal control) terminal to which a white with black tracer wire is connected. Adjust R474 for exactly +15 V. Disconnect the

meter. Set the MANUAL SCAN control fully counterclockwise. With the HORIZ POSITION control, set the CRT spot carefully to the zero vertical graticule line; see Fig. 7-11.

PARTS LIST CORRECTION

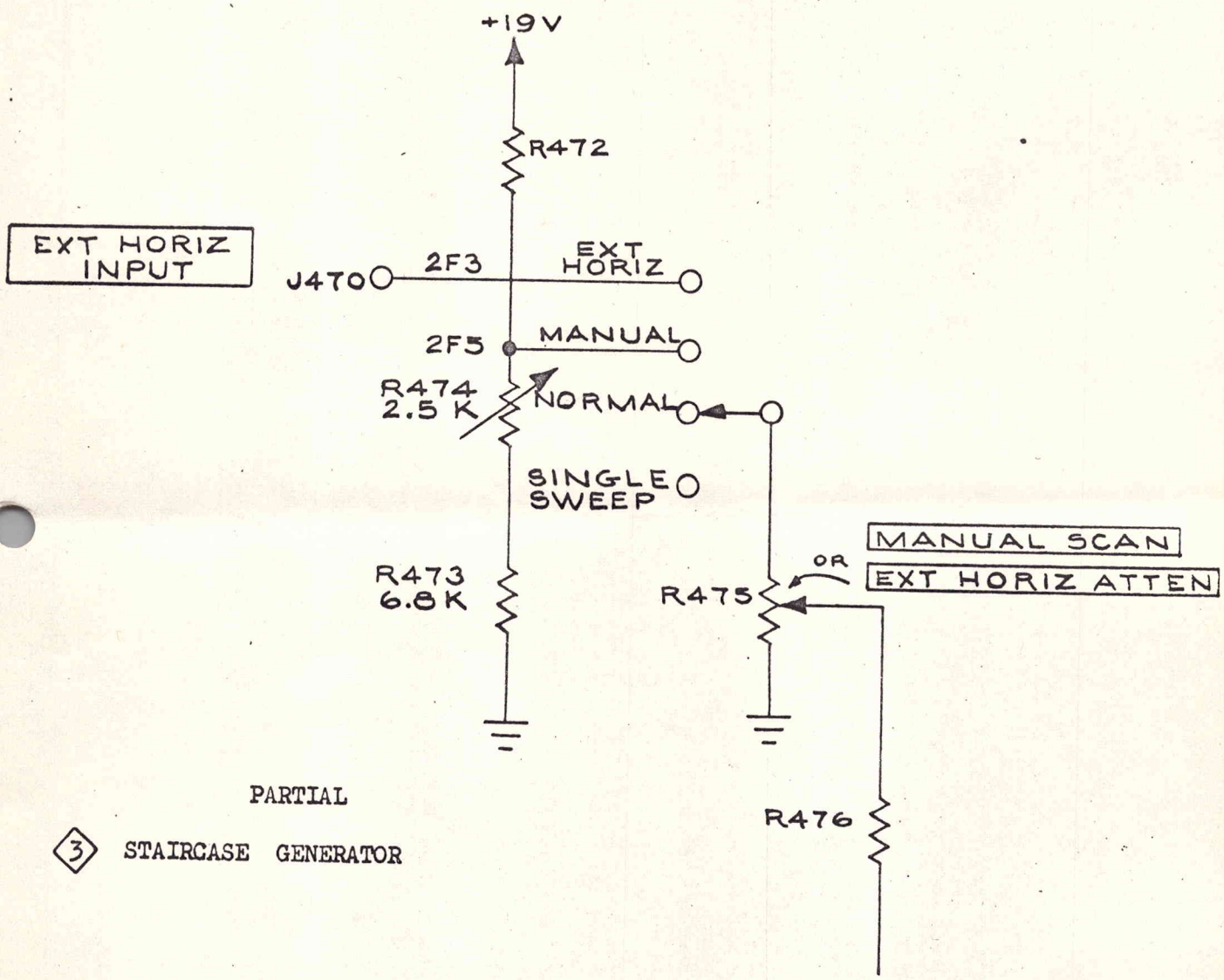
CHANGE TO:

R473	315-0682-00	6.8 k	1/4 W	5%
SW410	262-0804-01	Rotary	DISPLAY MODE	

ADD:

R474	311-0086-00	2.5 k	1/2 W	±20%

SCHEMATIC CORRECTION



PARTIAL

3 STAIRCASE GENERATOR

M13,014/1067