

3784A-03

S E R V I C E N O T E

SUPERSEDES: None

HP 3784A Digital Transmission Analyser

Serial Numbers: 0000U00000 / 9999U999999
Standard and Option 002 units only.

Modification to optimize the HP 3784A for burst mode operation.

To Be Performed By: HP-Qualified Personnel

Parts Required:

HP Part No.	Description	Reference Designator
0757-0465	100k resistor	A3126
8159-0005	0 ohm resistor	A32LK3
0757-0280	1k resistor	A32R61
0757-0442	10k resistor	32R160
0698-3153	3.83k resistor	A33R333
2100-3349	100 ohm potentiometer	A33R33

Situation:

This modification optimizes the 3784A for burst clock/binary data testing. With this modification the 3784A can be used for burst mode testing on clock and data signals with dead times of up to 200mS between bursts.

Continued

DATE: 01 March 1993

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

INFORMATION ONLY

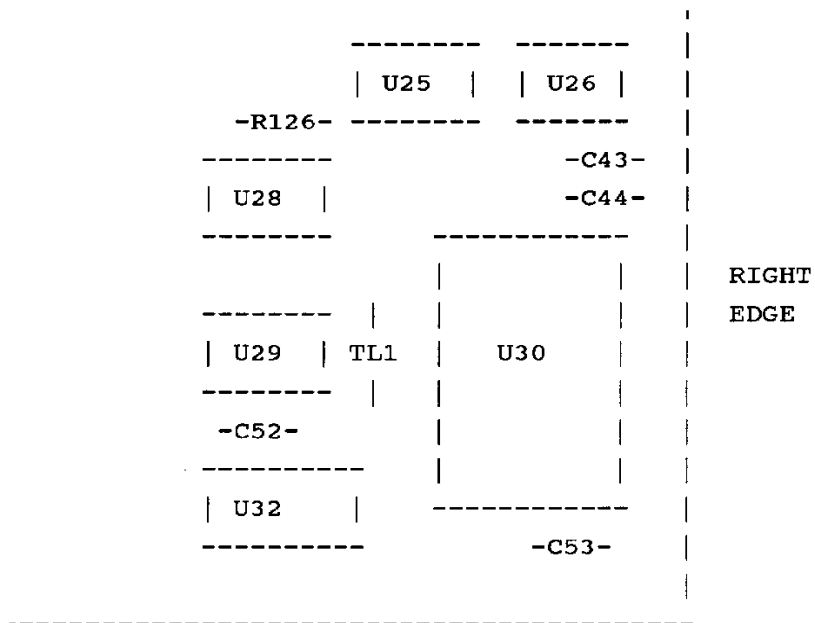
AUTHOR:	ENTITY:	ADDITIONAL INFORMATION:
JMcW	1400	Labor 2.0 hours

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Procedure:**A31 (03785-60431) modifications :**

1. Remove R126, 31.6k resistor, P/N 0698-3160 and replace it with a 100k resistor, P/N 0757-0465.

**FIGURE 1-1, A31 LAYOUT**

A32 (03785-60432) modifications :

2. Remove and discard C22, 1uF capacitor, P/N 0160-3508 and replace it with a link (P/N 8159-0005) at location LK3.
3. Add 1k resistor (P/N 0757-0280) at location R61.
4. Remove R160, 3.48k resistor, and replace it with a 10k resistor P/N 0757-0442.

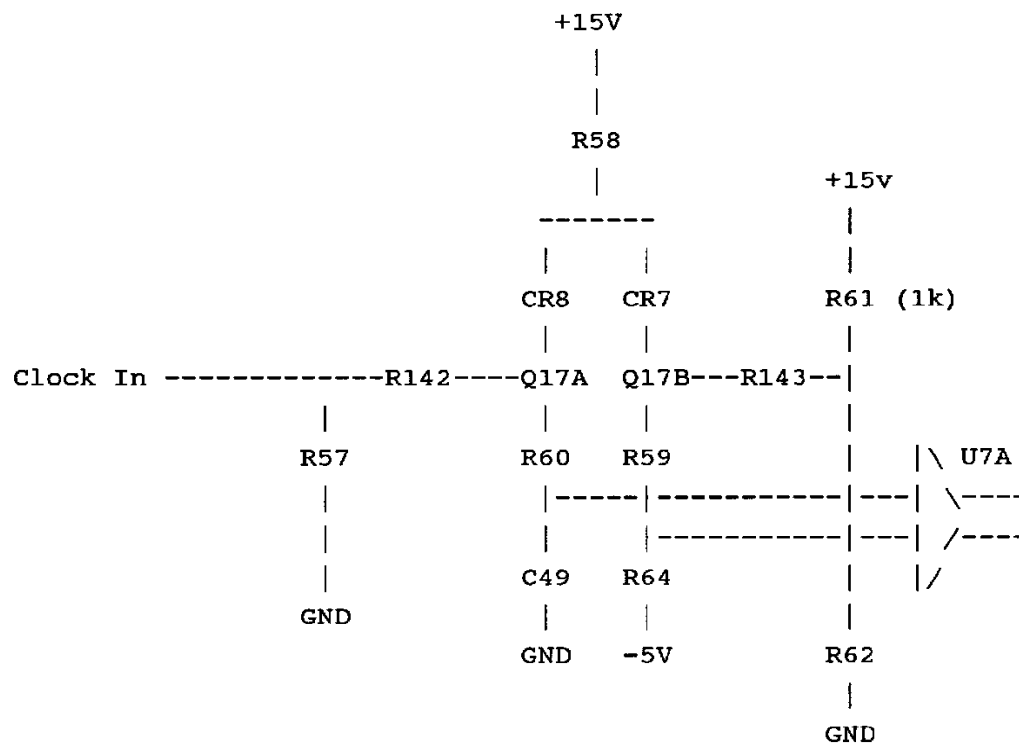


FIGURE 1-2, A32 CLOCK INPUT AMPLIFIER

A33 (03785-60433) Modifications:

5. Remove R37 and discard. Connect a wire from the free pad closest to C32 to the nearer of the two pads of location R13. Note R13 is not fitted. See FIGURE 1-5.
6. Remove C33, 1uF capacitor, P/N 0160-3508 and replace it with a 3.83k resistor, P/N 0698-3153.
7. Remove R33, 20 ohm potentiometer, P/N 2100-3426 and replace it with a 100 ohm potentiometer, P/N 2100-3349.

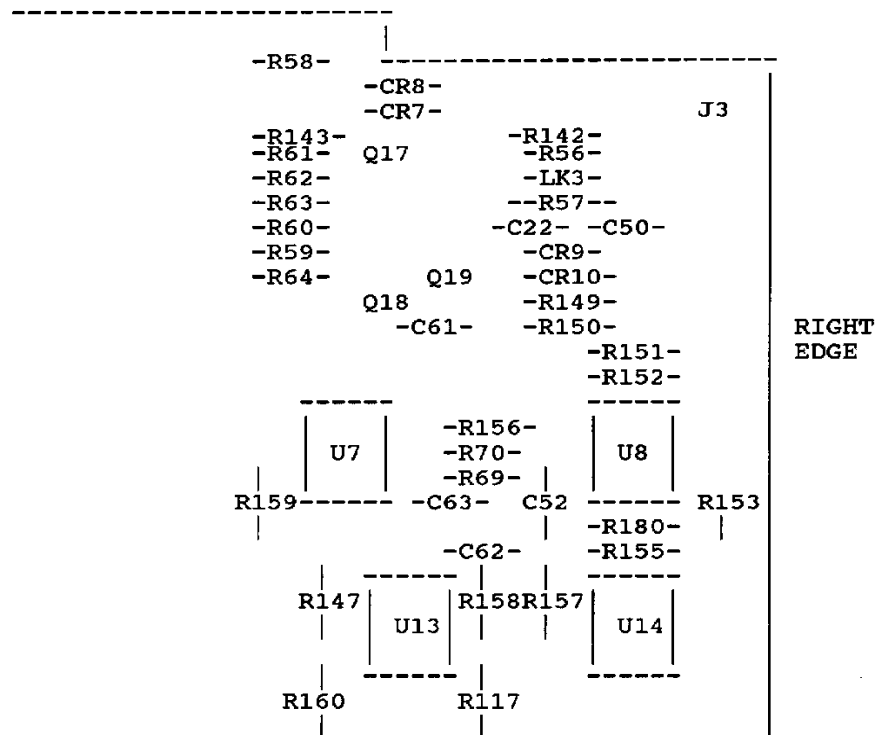


FIGURE 1-3, A32 COMPONENT LAYOUT

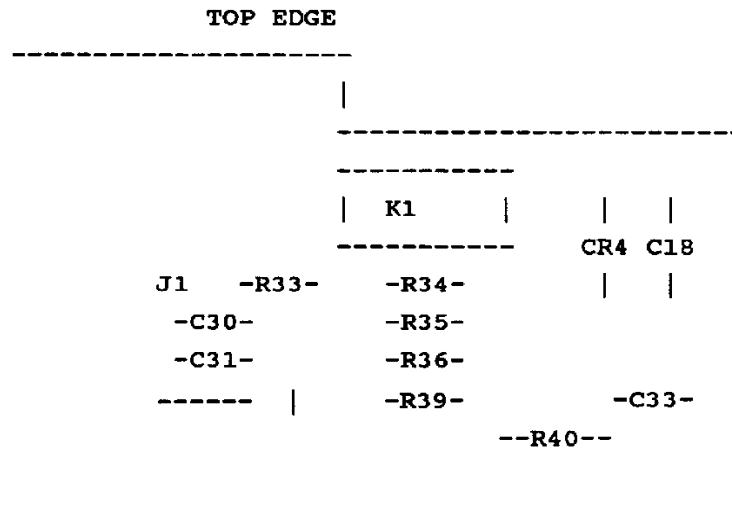


FIGURE 1-4 A33 LAYOUT 1

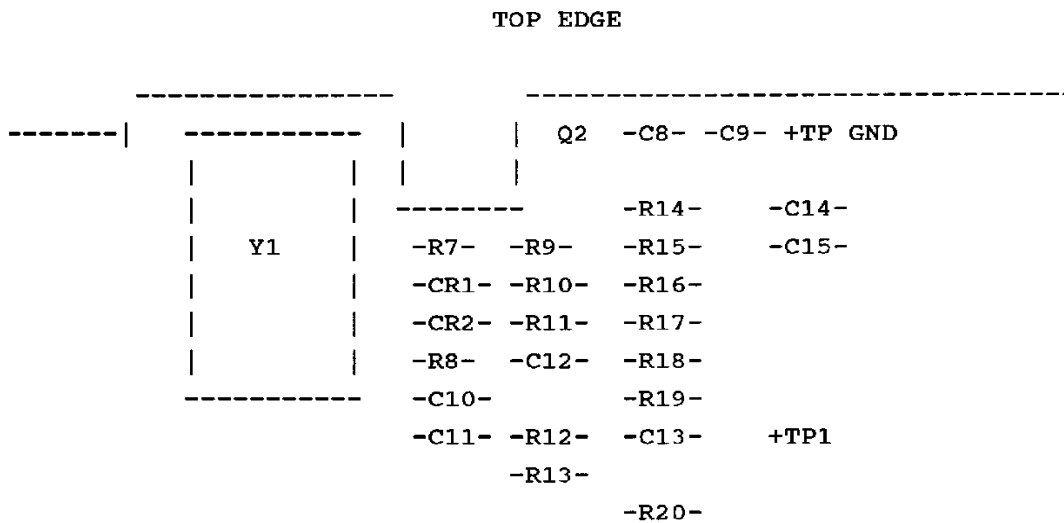


FIGURE 1-5 A33 LAYOUT 2

Adjustment Procedure:

1. Connect a 8116A Pulse Generator to the 3784A TX EXT CLOCK IN port.
2. Set the 3784A, display page 2, to Clock [EXT].
3. Set the 8116A to FREQUENCY 1MHz, AMPLITUDE 1V pk-pk, OFFSET +1.6V.
4. Connect the 3784A TX CLOCK OUT port to an Oscilloscope, terminated with 75 ohms.
5. Adjust A33R33 for a mark:space ratio of 50:50.

Verification Procedure:

1. Connect a 8116A Pulse Generator to the 3784A TX EXT CLOCK IN port.
2. Set the 8116A to SQUARE WAVE, INT BURST, FREQUENCY 64kHz, REPETITION RATE 10mS and BURST LENGTH 16.
3. Set the 8116A to AMPLITUDE 1V, OFFSET +1.6V.
4. Set the 3784A for BINARY TTL operation and connect the TX CLOCK OUT port to the RX CLOCK IN port and the TX DATA OUT port to the RX BIN DATA IN port.
5. Set the 3784A, display page 2, to Clock [EXT].
6. Verify that the 3784A operates error free.