VECTOR
VECTOR GRAPHIC INC.

TECHNICAL ADVISORY

SUBJECT: IDENTIFICATION AND CONVERSION OF ZCB BOARD UNITS AFFECTED: ALL SYSTEMS	MODEL V3	V3-0022
	DATE: 1 DEC. 1981	PAGE: 1 OF 4

CONDITION: Identification of the different versions of the ZCB PCB.

CORRECTION: The following pages contain a brief summary of identifying features and conversion procedures of the ZCB Board.

ZCB PCBA

REV 1 TYPE A
#3501-0000 4Mhz ORIGINAL

This version has 3 prom sockets at U20 and U21 (monitor)proms and U22 (printer)prom. Requires three #2708 Proms.
Identifying Features: Position U26 is vacant; no jumper wires in area "F", only standard traces.

REV 1 TYPE B
#3501-0000 4Mhz

This version has 3 prom sockets at U20 (printer), U21 (Boot/Graphic), and U22 (monitor). Requires two #2708 at U20 and U21 and one #2716 at U22.
Identifying Features: Has jumper wire on backside of PBCA from pin 21 to pin 24 of IC U22: Position U26 is vacant.

REV 2 TYPE A
#3501-0000 4Mhz

This version has 3 prom sockets at U20 (monitor), U21 (Boot/Graphic) and U22 (printer). Requires one #2716 at U20 and two #2708 at U21 and U22.
Identifying Features: No jumper wires and position U26 is vacant.

REV 3 TYPE A
#3501-0000 4Mhz W/READ DELAY CIRCUITRY

This version has 3 prom socket at U20 (monitor), U21 (Boot/Graphic), and U22 (printer). Requires one #2716 at U20 and two #2708 at U21 and U22.
Identifying Features: Position U26 has an IC socket mounted. NOTE: Jumper wire from pin 3 of U33 must go to pin 13 of U33 not pin 12.

(CONTINUED ON NEXT PAGE)

SUBJECT: IDENTIFICATION AND CONVERSION OF ZCB BOARD UNITS AFFECTED: ALL SYSTEMS	MODEL V3 DATE: 1 DEC. 1981	V3-0022 PAGE: 2 OF 4

(CONTINUED)

REV 3 TYPE B
#3501-0000 4 Mhz UPGRADABLE

This version has 3 prom sockets at U20 (monitor-boot-printer), U21 (no prom) and U22 (no prom). NOTE: Disregard note in printer manual to insert a printer prom in location (U22). Requires one #2732 prom at location U20.
Identifying Features: Position U26 has an IC soldered in; position U33 has an IC socket mounted; has trace or wire jumper from Pad 1 to Pad 2 of jumper area "A", processor chip is a Z-80-A or Z-80-4.

To convert to 6Mhz version: Remove IC at position U33, insert the piggy-back PCBA (#3524-0000) and in jumper area "A" cut trace or remove jumper wire from Pad 1 to Pad 2.
NOTE:Processor chip must be a Z-80-B for 6Mhz operation.

REV 3 TYPE C
#3501-0002 6Mhz W/PIGGY-BACK PCBA

This version has 3 prom sockets at U20 (monitor-boot-printer), U21 (no prom) and U22 (no prom). NOTE: Disregard note in printer manual to insert a printer prom in location (U22). Requires one #2732 prom at location U20.
Identifying Features: Has piggy-back PCBA plugged into socket at position U33; position U26 has an IC soldered in. Area "A" trace 1 to 2 is cut.
NOTE: Processor chip must be a Z-80-4.

To convert to 4Mhz version: Remove the piggy-back PCBA. Install an IC #74LS04 (part #2501-0003) at position U33 and in jumper area "A" add wire from Pad 1 to Pad 2, change processor to Z-80-A or Z-80-4. It is not mandatory that the processor chip be changed to Z-80-A, as a Z-80-B (6Mhz) will function properly at 4Mhz.

REV 4
#3501-0002 6Mhz W/O PIGGY-BACK PCBA

This version has one prom socket at U20 (monitor-boot-printer). NOTE: Disregard note in printer manual to insert a printer prom in position U22. Requires one #2732 prom at position U20.
Identifying Features: Has no piggy-back PCBA. Position U26 and U33 have IC's soldered in; has 12.000Mhz Xtal mounted in area Y-1.

To convert to 4Mhz version: In jumper area "A" remove jumper wire or cut trace between Pad 1 and Pad 2; add a wire between Pad 2 and Pad 4. This version can be ordered under part number 3501-0004.

VECTOR GRAPHIC INC.

TECHNICAL ADVISORY

SUBJECT: IDENTIFICATION AND CONVERSION OF ZCB BOARD UNITS AFFECTED: ALL SYSTEMS	MODEL V3 DATE: 1 DEC. 1981	V3-0022 PAGE: 3 OF 4

ZCB REFERENCE CHART

Listed below are the jumper areas of the ZCB Board that affect the various PROMS in U20, U21 and U22. Revisions 1A and 1B are not directly upgradable to later revisions using this chart.

	AREA F	AREA J	AREA K*	AREA L	AREA M
REVISION 1.A	14 TO 1 13 TO 6 11 TO 2 7 TO 3	2 to 4 5 TO 7	3 TO 4- TO 1 6 TO 2- TO 5	3 TO 4- TO 1 6 TO 2- TO 5	3 TO 4- TO 1 6 TO 2- TO 5
REVISION 1.B **SEE BELOW	14 TO 2- 13 11 TO 1 7 TO 3 6 T0 12	2 TO 4 5 TO 7	3 TO 4- TO 1 6 TO 2- TO 5	3 TO 4- TO 1 6 TO 2- TO 5	3 TO 4- TO 1 6 TO 2- TO 5
REVISION 2.A	13 TO 14- TO 1 11 TO 2 7 TO 3 12 TO 6	6 TO 1 7 TO 5		7 TO 4 6 TO 3	7 TO 4 6 TO 3
REVISION 3.A	13 TO 14- TO 1 11 TO 2 7 TO 3 12 TO 6	6 TO 1 7 TO 5		7 TO 4 6 TO 3	7 TO 4 6 TO 3
REVISION 3.B	11 TO 12- TO 13 TO 14 TO 1 7 TO 3	6 TO 1 7 TO 2		7 TO 4 6 TO 3	7 TO 4 6 TO 3
REVISION 3.C	11 TO 12- TO 13 TO 14 TO 1 7 TO 3	6 T0 1 7 TO 2		7 TO 4 6 TO 3	7 TO 4 6 TO 3
REVISION 4	11 TO 12- TO 13 TO 14 TO 1 7 TO 3	6 TO 1 7 TO 2		7 TO 4 6 TO 3	7 TO 4 6 TO 3

* On the ZCB Board revisions 1A and 1B, both contained a jumper area K this area was discontinued when the revision 2 ZCB Board was released.

** This revision ZCB Board had the following modifications made to it.

1.) Under the monitor PROM in the U22 socket the trace going to pin 21 should be cut.

CONTINUED ON NEXT PAGE

SUBJECT: IDENTIFICATION AND CONVERSION MODEL V3 OF ZCB BOARD UNITS AFFECTED: ALL SYSTEMS	V3-0022
	DATE: 1 DEC. 1981 / PAGE: 4 OF 4

(CONTINUED)

2.) Under the Monitor PROM in the U22 socket the trace going to pin 19 should be cut.

3.) On the reverse side of the ZCB Board there is a jumper from U22 pin 21 to U22 pin 24.

4.) On the reverse side of the ZCB Board there is a jumper from U22 pin 19 to area J pad 3.

REFERENCE:

TOOLS NEEDED:
1. Phillips screwdriver
2. Soldering iron 15/25 Watt
3. Wire cutters
4. Exacto knife

INSTRUMENTS NEEDED:

1. Volt/OHM Meter or DVM

Estimated conversion time:

1/2 Hour

#VTA-81-1

All Systems

January 15, 1981

REV 3 ZCB

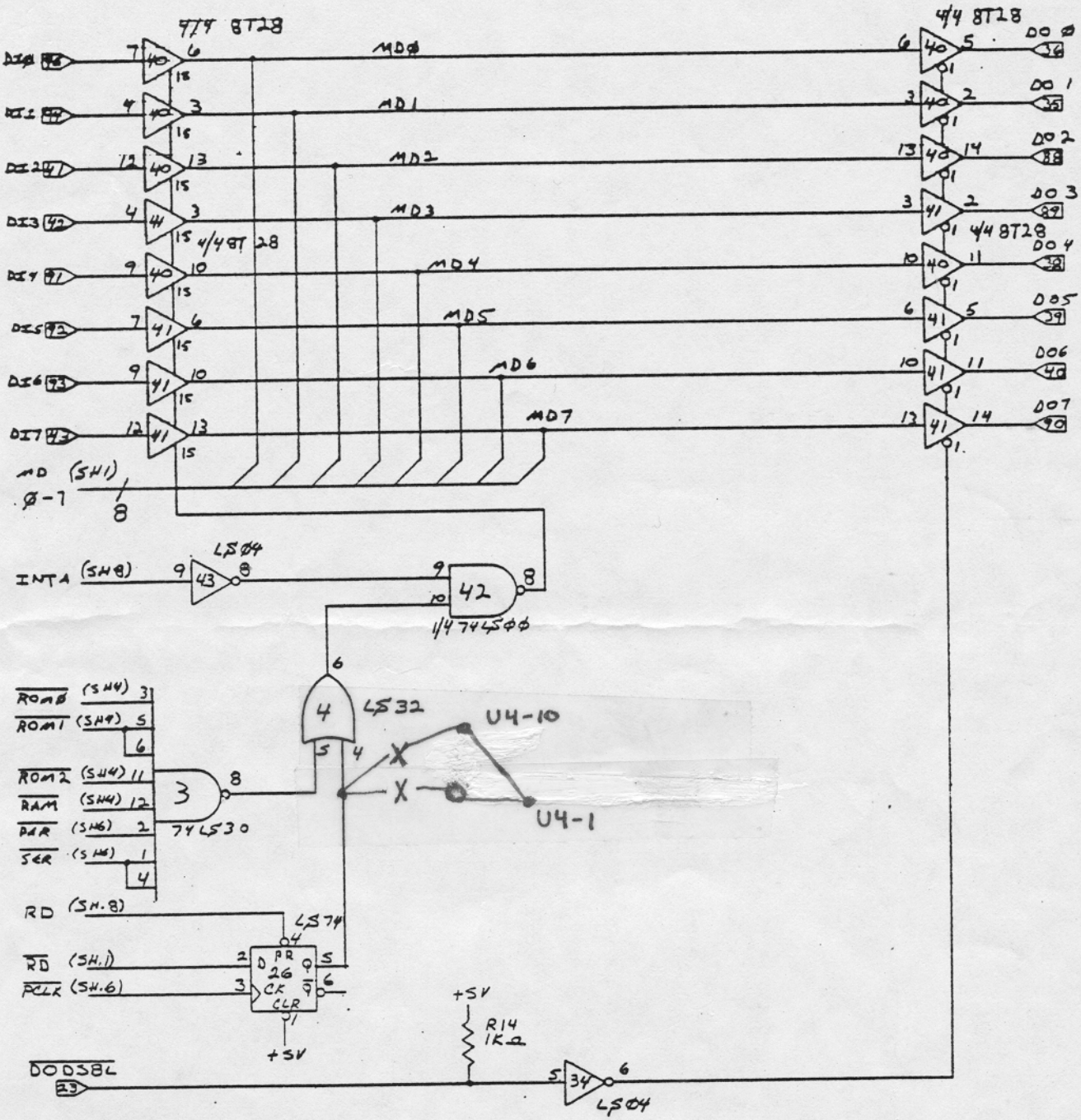
The Revision 3 ZCB board is now in production at Vector. This Revision was implemented in order to delay the RD signal, which was creating a race condition that caused a data glitch. This "glitch" could create memory errors that were attributed to the 64K PCB. This revision is a factory only modification. The error condition is apparent when a 64K PCB is swapped or the LS244's are changed to resolve a memory error, but the original 64K PCB functions properly with a different ZCB board. The attached schematic should be added to your ZCB documentation.

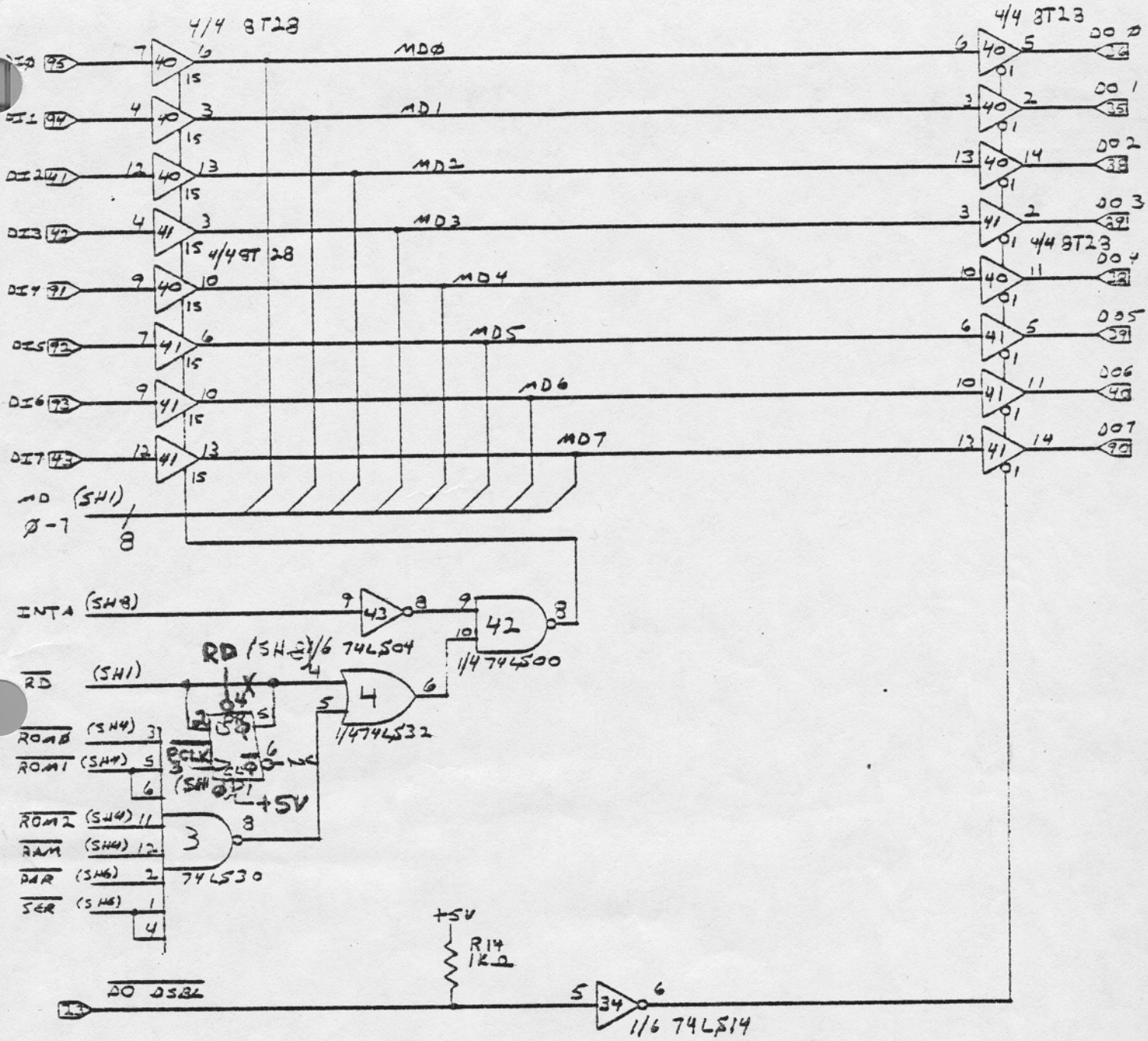
Jamie Zartman
Director, Product Support

JZ:uk
attachment

U26-1 to U26-14
U26-2 to U33-9
U26-3 to U33-13
U26-4 to U33-8
U26-5 to U4-4
U4-1 U4-10
cut U4-4 to U4-10
cut U4-4 to feed-thru and U4-1

VECTOR TECHNICAL ADVISORY


74 8T28
4/4 8T28
DI0
DI1
DI2
DI3
DI4
DI5
DI6
DI7
MD0
MD1
MD2
MD3
MD4
MD5
MD6
MD7
DO 0
DO 1
DO 2
DO 3
DO 4
005
006
007
MD (SH1) Ø-7
8
INTA (SH8)
LS04
74LS00
ROMØ (SH4)
ROM1 (SH4)
ROM2 (SH4)
RAM (SH4)
PAR (SH6)
SER (SH6)
74LS30
LS32
U4-10
U4-1
RD (SH.8)
LS74
RD (SH.1)
PCLR (SH.6)
+5V
R14
1KΩ
DOD38L
LS04



REVISION X3 7/16/80

SHEET 2/ 10

DATA BUS CONTROL

PRODUCT IMPROVEMENT BULLETIN

PART	DATE	NUMBER
ZCB SINGLE BOARD COMPUTER	05/8/80	0066

REASON: TO ACCOMMODATE AN 8316 MONITOR ROM IN SOCKET "U22".

NOTE: AFTER PERFORMING THE CHANGES MENTIONED BELOW, THE 8316 ROM HAS TO BE PLACED IN SOCKET U-22, U21 IS NOW ADDRESSED AT E800 HEX, U20 IS AT EC00 HEX.

DESCRIPTION OF CHANGE:

JUMPER AREA "F" SHOULD BE JUMPERED IN THE FOLLOWING MANNER:

1 TO 11, 2 TO 13 AND 14, 6 TO 12, AND 3 TO 7 AS BEFORE.

ON THE COMPONENT SIDE OF BOARD PRY UP THE PLASTIC SOCKET HEADER OF "U22". CUT THE TRACES GOING TO PINS 19 AND 21. REPLACE THE HEADER. ON THE BACK SIDE OF THE BOARD, RUN A JUMPER FROM U22, PIN 19 TO FIELD "J-3" AND RUN THE SECOND JUMPER FROM U22, PIN 24.

EFFECTIVITY:	PRIORITY
REV. 1 ZCB BOARDS ONLY	1

ORIG. C. Selby	DATE 5-8-80
APPVD. R. Hoop	DATE 5-8-80

DISTRIBUTION:

- ▷ PRODUCTION
- ▷ TEST
- ▷ QA
- ▷ MATERIAL
- ▷ PURCHASING
- ▷ FIELD

VECTOR GRAPHIC INC.

PRODUCT IMPROVEMENT BULLETIN

PART	DATE	NUMBER
(ZCB) Z-80 SINGLE CARD COMPUTER BOARD	2/15/80	0056

REASON:

TO SUPPLY SIGNAL GROUND TO SERIAL I/O CONNECTOR

DESCRIPTION OF CHANGE:

INSTALL A JUMPER FROM J2, PIN 10 TO U6, PIN 4

EFFECTIVITY:	PRIORITY
ALL ZCB BOARDS IN PRODUCTION AND IN HOUSE	ONE

ORIG. C. SELBY	DATE 2/15/80
APPVD. R. Hays	DATE 2/18/80

DISTRIBUTION:

- ▷ XX PRODUCTION
- ▷ XX TEST
- ▷ XX QA
- ▷ MATERIAL
- ▷ PURCHASING
- ▷ FIELD

VECTOR GRAPHIC INC.

VECTOR
VECTOR GRAPHIC INC.

TECHNICAL ADVISORY

SUBJECT: TERMINATING CARRIER DETECT ON THE ZCB	MODEL: MZ	MZ-0034
	DATE: 30, MAR.1982	PAGE: 1 OF 1

UNITS AFFECTED: 3100 & 3105

CONDITION: Lack of hardware termination for Carrier Detect on older ZCB boards cause communication problems with some serial printers.

IDENTIFICATION: If R10 is present on the ZCB board this modification is not necessary. R10 is located on the right side of the component side of the board.

CORRECTION: Terminate carrier detect.

PROCEDURE: Remove the ZCB board from the system.

Cut a 3/8" piece of of plastic sleeving and install it over one end of a 1K (1000) Ohm 1/4 Watt resistor.

Orient the ZCB so that you are looking at the solder side of the board.

Locate pin 9 on connector J-2 and solder the sleeved end of the resistor to this pin.

Solder the other end of the resistor to pin 14 of I.C. U-15.

Cut off any extra resistor lead.

Connect a serial printer to the RS-232 port and verify that it operates properly.

PARTS REQUIRED: 1K (1000 Ohms) 5% 1/4 watt resistor
(V.G. P/N 2503-0003)
1/16" plastic sleeving

TOOLS REQUIRED: Phillips Screwdriver
Diagonal Cutters
Soldering Iron
Solder Sucker
Solder

ESTIMATED REPAIR TIME: 0.5 Hours