



TO: ALL ZDS SERVICE CENTERS

SUBJECT: PROFESSIONAL AUCTIONEER'S COMPUTER SYSTEMS

An OEM called Vertimax Corporation is selling a Z-89 system out of Lakeland, Florida. This system has a special PROM installed that you need to be aware of.

GENERAL INFORMATION

Professional Auctioneer's Computer Systems (PACS) computers consist of a Z-89 computer with a custom PROM installed in socket U519 on the CPU Logic board. The systems are identified externally by a label on the top of the cabinet, just above the CRT. This label is similar to the one in Figure 1 below. Also included in the system will be a Z-87 auxiliary disk unit and a printer. The system will be in a custom carrying case that resembles a large steamer trunk.



DETAILED INFORMATION

The PROM installed at U519 contains 3 bytes of security information and has no effect on the System PROM. The jumper at JJ507 is placed in the "A" position to enable the PROM in U519.

For diagnostic purposes, JJ507 can be returned to the "B" position and the PROM at U519 removed. These procedures return the CPU Logic board to original factory configuration. If the PROM is found to be defective, a replacement can be obtained free of charge from:

Jophn Shufflebarger
Vertimax Corporation
522 S. Florida Ave.
Lakeland, Fl 33801
813-688-1882

The PROM is only used by certain application programs and does not affect HDOS or CP/M operations in any way.

SERVICE POLICY

The Z-89 and Z-87 are covered in Warranty by ZDS, however the special PROM mentioned above at U519 is not covered by ZDS. In the event a service call is made and it is found that the PROM is the sole cause of the call, then Vertimax Corporation will reimburse the ZDS Service Center at the current ZDS Warranty rates. Any claims to Vertimax Corporation should be with the NARDA Form, addressed to Vertimax, at the previously mentioned address.

If you have any questions please feel free to give my office a call.



Earl Russell
Field Engineer Manager

06/82



TO: ALL ZDS SERVICE CENTERS AND DISTRIBUTORS
SUBJECT: ZVM-121 MONITOR

Effective June 1, 1982, the ZVM-121 Monitor comes with a 1 year warranty, parts and labor.

The following information concerns service details for the ZVM-121.

BRIGHTNESS

The 12MBX15 chassis that is shipped as a replacement module has resistors R843, R844 and R846 installed. One or more of these resistors may need to be removed if brightness is insufficient. An instruction sheet is provided with the replacement module, however follow the following steps for proper adjustment:

With CONTRAST CONTROL set at minimum and BLACK LEVEL CONTROL set at maximum, 120v AC line, clip off resistor (R843, R844 and R846) one at a time till the raster is visible.

NOTE: Under normal testing procedures you must have video applied to give brightness on the screen.

Making the above adjustment is necessary when installing the 12MBX15 chassis in order to match the chassis to the CRT.

Earl Russell
Field Engineering Manager



TO: ALL ZDS DISTRIBUTORS AND SERVICE CENTERS

SUBJECT: Z-89/Z-90 CONFIGURATION

Make the following changes to your Master Disk Configuration Guide to make your Guide current:

1. In the section for Memory Options, the memory expansion cable should be HE 134-1130 in all cases. In error, an 1159 cable is mentioned on a couple of sheets.
2. Under the Z-89-37 option, there is a listing for U518 being a 444-84 ROM. This ROM has been changed, and should now be listed as HE 444-142. Make this correction on all sheets under the Z-89-37 column.
3. Under the Z-89-67 option U518 should also be changed as above under the 89-37 change. U518 is now HE 444-142. Make this change to all sheets under the Z-89-67 column.

NOTE: On the Z-89-37 card the position of the Jumper is often incorrect. Remember, the Jumper is for the internal drive selection, and should be as follows:

Jumper position	Drive selected
J3 -----	Drive 1
J4 -----	Drive 2
J5 -----	Drive 3
J6 -----	No internal drive

If one experiences problems in booting a particular drive after working on a system then check for the proper jumper selection.



TO: ALL ZDS SERVICE CENTERS AND DISTRIBUTORS
SUBJECT: BULLETIN CORRECTION INFORMATION

The following information is for corrections to past bulletins and general information:

1. FSB-Z19-030

C422's correct part number is HE 25-921.

2. Z25AA SERVICE MANUAL

On pages 7-13 and 7-3 the fuse under part number HE 421-5 should be listed as a 4 amp slow-blow.

3. GDZ-1320 COLOR MONITOR

The chassis was formerly DC13-PF-5. Now in production is CD13-LV-XC01.

NOTE: Using the chassis number in place of the model number on Warranty Claims is not permissible. Use the proper model number of GDZ-1320.

Earl Russell
Field Engineering Manager



JUNE 21, 1982

TO: ALL ZDS SERVICE CENTERS AND DISTRIBUTORS

SUBJECT: Z-37 SERVICE HINTS

1. It has been noted in many instances that Users have a Z-37 where the left drive fails to boot, but the right drive is ok. The most likely problem is the jumper on the Z-89-37 I/O card, which should be on J6.

2. Whenever you have one drive that works and one drive that does not work then you might want to use the following technique to isolate the source of your problem:

1. Put the terminator for the drive on the faulty drive.
2. Put the shunt for drive 0 on the faulty drive. You may use the shunt for drive 1 if this is the fault area you wish to test.
3. Disconnect the ribbon cable from the good drive.
4. Test the drive.
5. Repeat the above steps with the good drive.
6. The results from this test will tell you if the problem is the drive or the I/O card.

3. If a drive fails to boot you may suspect that the Track 0 alignment is off. In order to test for Track 0 follow these steps:

1. Install a bootable disk in the suspect drive. With an H: prompt, type 0 and the terminal prints OUT. Type in the following steps;

```
O(ut)      170,30    <CR>      address the left drive
O(ut)      170,50    <CR>      address the right drive
```

```
O(ut)      171,000   <CR>
O(ut)      172,100   <CR>      steps drive
O(ut)      172,100   <CR>      steps drive
```

repeat for 6 steps

B(oot)

If the disk boots then the Track 0 needs to be aligned. If the disk does not boot then the problem is elsewhere.

Earl Russell
Field Engineering Manager



TO: ALL ZDS DISTRIBUTORS AND SERVICE CENTERS
FROM: EARL RUSSELL
FIELD ENGINEERING MANAGER

ATTACHED ARE THREE BULLETINS CONCERNING THE ZT TERMINAL FAMILY.
THEY ARE:

- I SERVICE POLICY
- II UPDATED MODEL MASTER LIST
- III UPDATE TO TT03

PLEASE UPDATE YOUR FILES WITH THE ATTACHED.

06/82



TO: ALL ZDS DISTRIBUTORS & SERVICE CENTERS
FROM: EARL RUSSELL
FIELD ENGINEERING MANAGER
SUBJECT: SERVICE POLICY, ZT FAMILY OF INFORMATION TERMINALS

Zenith Data Systems is now in production with a new family of Information Terminals.

Recently there was mailed a new Technical Training Manual, TT03, covering this new product. With the introduction of the ZT Information Terminal there are several new Model Numbers to add to the Model Master List. They are:

ZTA-1	These models are for the terminal
ZTX-1	portion of the ZT product only.
ZTX-1-A	The differences are covered in
ZTX-1-B	TT03.

SPECIAL COMMENTS:

- o The ZT Terminal is a carry-in product only.
- o The Modem is not repairable in the Field due to FCC restrictions. For more information refer to TT03.
- o The Monitor with the ZT Terminal is a separate product, and should be handled as such.

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MODEL MASTER LIST

MICROCOMPUTER: ON SITE 90 DAYS PARTS AND LABOR

WH-11-BA	WH-89-48	Z-89-80
HE-289	WH-89-AA	Z-89-81
HE-289-16	WH-89-CA	Z-89-AA
HE-289-48	WH-89-FA	Z-89-CA
HE-289-AA	WH-89-GA	Z-89-FA
HE-289-CA	Z-89	Z-89-GA
HE-289-FA	Z-89-16	Z-89-X
HE-289-GA	Z-89-37	Z-90-80
WH-89	Z-89-47	Z-90-82
WH-89-16	Z-89-48	Z-89-67

VIDEO DISPLAY TERMINAL: ON SITE 90 DAYS PARTS AND LABOR

HE-Z-19	Z-19-CN	Z-19-HW
WH-19	Z-19-CW	Z-19-HN
WH-ZAA-19	Z-19-FC	ZAA-19-HW
Z-19	Z-19-HG	ZAA-19-HN

DISK DRIVE: ON SITE 90 DAYS PARTS AND LABOR

WH-27	Z-47-BA	Z-87
HE-Z-47-GA	Z-47-DA	Z-37
WH-47	HE-Z-87	Z-67
WH-47-GA	WH-87	Z-87-89
Z-87-90		

MONITOR: CARRY-IN 90 DAYS PARTS AND LABOR

ZVM-121	GDZ-1320	DC13-PF-5
ZVM-121-1	ZVM-121-Z	

INFORMATION TERMINAL: CARRY-IN 90 DAYS PARTS AND LABOR

ZTX-1	ZTX-1-A
ZTA-1	ZTZ-1-B

PRINTER: ON SITE 90 DAYS PARTS AND LABOR

WH-25	Z-25-AA
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IMPORTANT NOTICE

Please replace the following pages in your
TT-Ø3 Training Manual with the updated
pages supplied with this notice:

- 1) Pages 27, 28
- 2) Pages 29, 30

Thank you,

ZENITH DATA SYSTEMS
TECHNICAL TRAINING DEPT.

ZT TERMINAL DIFFERENCES

ZT TERMINAL FAMILY

Electronically all units are identical except for a different ROM at location U113 on the Terminal Logic Board. These different ROM's are used to access different computer networks.

Model	U114	U113
ZTX-1	444-187	444-162 *
ZTX-1-A	444-187	444-188 **
ZTX-1-B	444-187	444-163 ***

* ROM 444-162 is Generic and is used to access various user defined telecommunication networks.

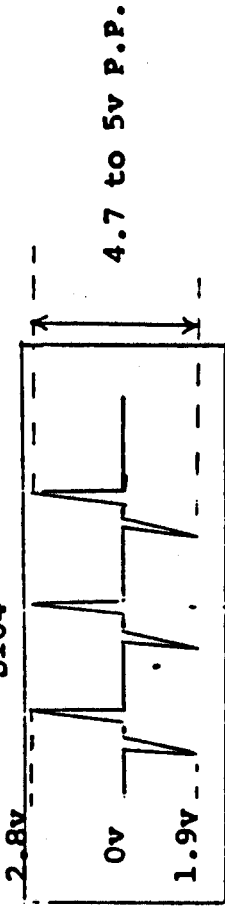
** ROM 444-188 is Source, a special telecommunication network.

*** ROM 444-163 is Prime-Fax, a special telecommunication network.

NOTE: You will be notified of any upgrade changes in ROM, and their associated parts numbers.

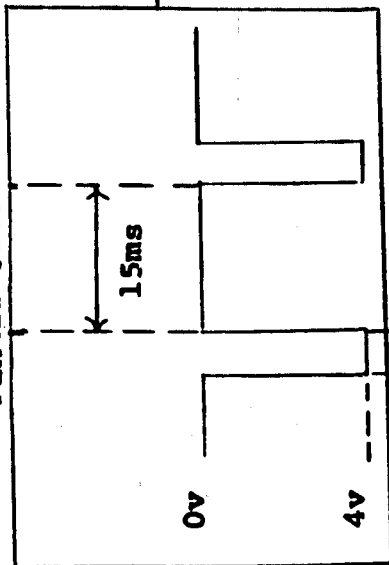
VIDEO SIGNALS

Composite Video S104

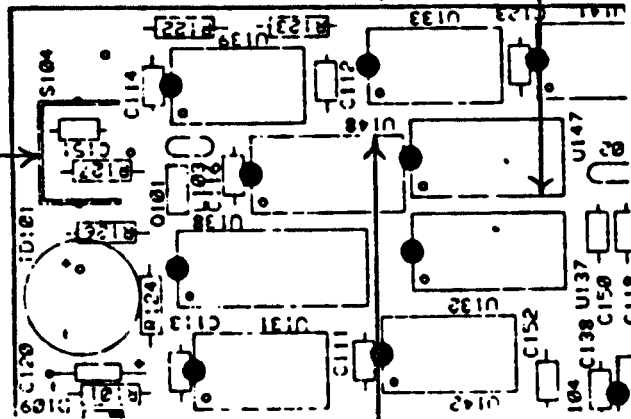


Scope Settings:
Voltage = .2v/cm
Sweep = 5ms/cm
Probe = X10

Vert. Sync.
Pin 11 U148

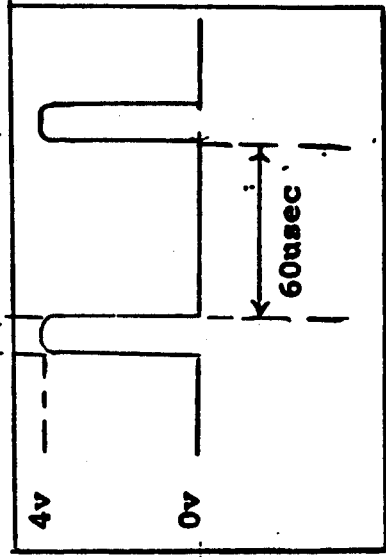


Scope Settings:
Voltage = .2v/cm
Sweep = 5ms/cm
Probe = X10



Upper Right Corner
Terminal Logic
Board

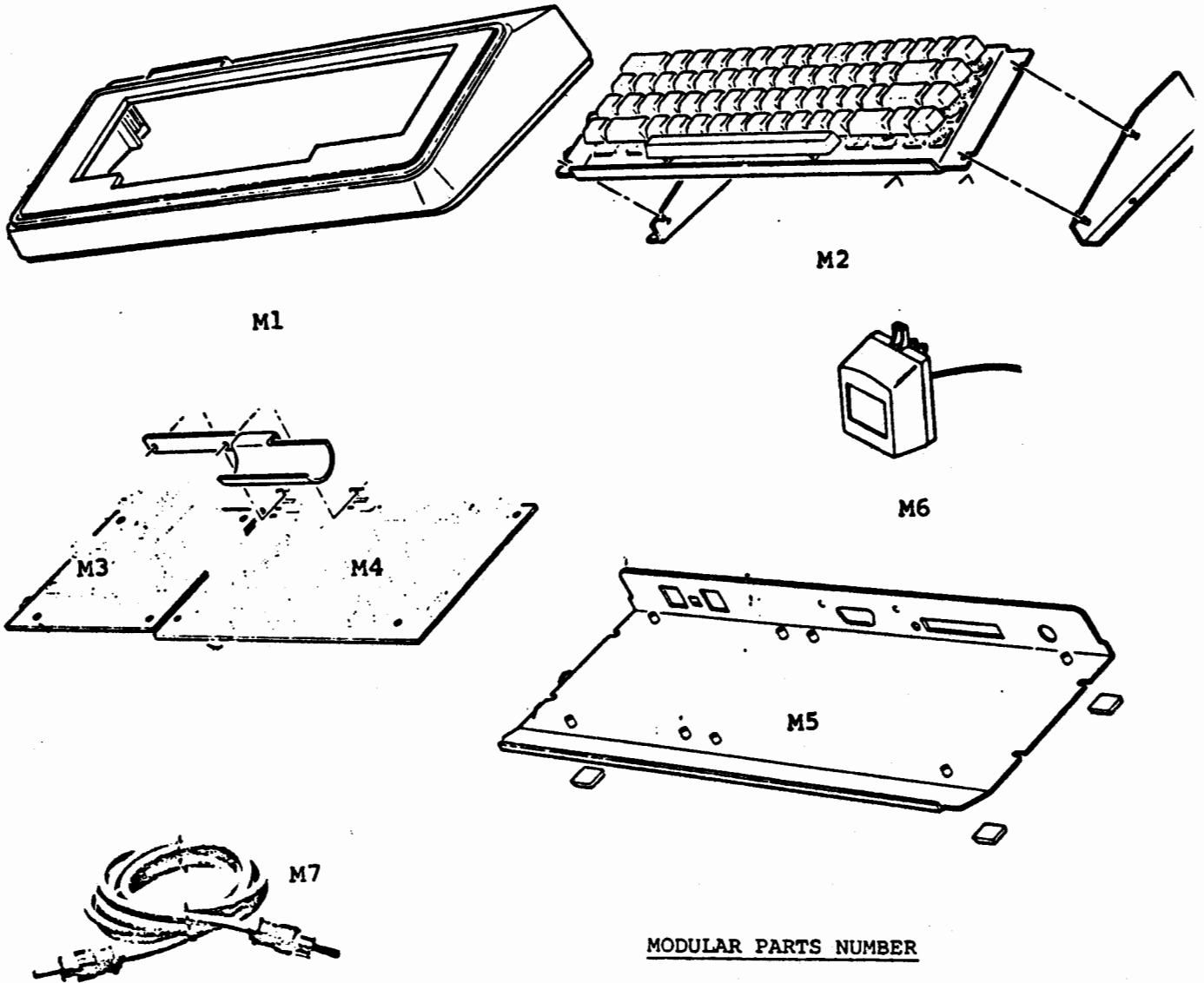
Scope Settings:
Voltage = .2v/cm
Sweep = 20usec
Probe = X10



Horz. Sync.
Pin 7 U147

Figure 15

MODULAR PARTS LIST



NOTE: To order Modular Parts contact your local Distributor or;

Zenith Data Systems
11000 Seymour Avenue
Franklin Park, IL 60131

(312) 671-7550
EXT. 256

MODULAR PARTS NUMBER

Key No.	Description	ZDS Part No.
M1	TOP COVER	HE-92-755
M2	KEYBOARD	HE-64-893
M3	MODEM BOARD	HE-181-3746
M4	TERMINAL LOGIC BOARD	HE-181-4075
M5	BOTTOM PLATE	HE-205-1874-1
M6	POWER SUPPLY	HE-54-1001
M7	VIDEO CABLE	HE-134-1188

SYSTEM PARTITIONING GUIDE

START:	Verification of Interconnection and Power	31
TASK 1:	Display Verification	32
TASK 2:	Keyboard Verification	33
TASK 3:	Optional Printer Verification	34
TASK 4:	Manual Dial and Voice Call Verification	35
TASK 5:	Data Call and Remote Terminal Verification	36
Display 1:	Main Menu	37
Display 2:	Sub-Menu	38



TO: ALL ZDS DISTRIBUTOR SERVICE MANAGERS
FROM: EARL RUSSELL
SUBJECT: Z-89/90 TEST RIGS

There has been much interest in obtaining the Test Rig to assist in troubleshooting the Z-89 or Z-90 microcomputers by Service Centers and Distributors. The following information has been put together to aid anyone who wishes to construct their own Test Rig.

- I Parts List
- II Cable Pin Outs
- III Frame Specs

Parts may be ordered thru ZDS at Franklin Park, Il. If one wishes all wires may be of one color, however each connector should be properly marked in order to prevent mis-connections.

If you have any questions please feel free to give me a call.

TEST JIG Z-89/90

PARTS LIST

QUANTITY	P/N	DESCRIPTION
1 EA	HE-950-8	ADAPTOR CABLE
1 EA	HE-950-9	ADAPTOR CABLE
4 EA	HE-204-2457	CKT BD MOUNT BRKT
8 EA	HE-266-944	NYLON GUIDE
1 EA	HE-432-954	4 HOLE CONN. SHELL
1 EA	HE-432-827	4 PIN PLUG
2 EA	HE-432-788	MALE TO MALE CONN.
4 EA	HE-432-1139	SHELL, 10 PIN FEMALE
50 EA	HE-432-824	SPRING CONN.
1 EA	HE-432-1039	15 PIN CONN.
5 FT	HE-344-82	WHITE WIRE
5 FT	HE-344-156	BLUE WIRE
5 FT	HE-344-81	VIOLET WIRE
7.5 FT	HE-344-183	RED WIRE
15 FT	HE-344-15	BLACK WIRE
7.5 FT	HE-344-80	ORANGE WIRE
5 FT	HE-344-155	GREEN WIRE
6 IN	HE-346-35	HEAT SHRINK TUBING

TEST JIG Z-89/90

CABLE PIN OUTS

VOLTAGE CABLE TO CPU 30 INCHES LONG

PIN	1	ORANGE
PIN	2	BLACK
PIN	3	RED
PIN	4	BLANK

CABLE TO CPU 30 INCHES LONG

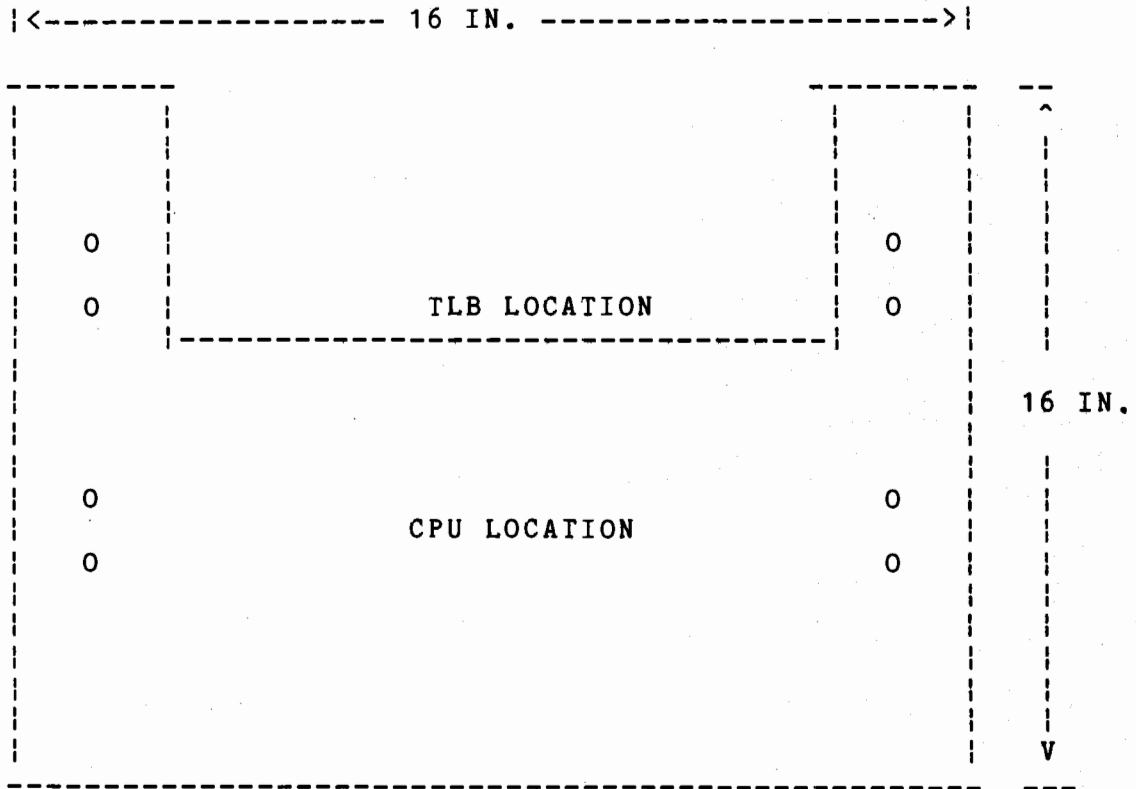
PIN	1	GREEN
PIN	2	BLACK
PIN	3	ORANGE
PIN	4	BLACK
PIN	5	KEY
PIN	6	RED
PIN	7	VIOLET
PIN	8	BLUE
PIN	9	WHITE
PIN	10	BLANK
PIN	11	BLANK

CABLE TO TERMINAL LOGIC BOARD 30 INCHES LONG

PIN	1	GREEN
PIN	2	BLACK
PIN	3	ORANGE
PIN	4	BLACK
PIN	5	KEY
PIN	6	RED
PIN	7	VIOLET
PIN	8	BLUE
PIN	9	WHITE
PIN	10	BLANK
PIN	11	BLACK

TEST RIG Z-89/90

FRAME SPEC



Distance of mounting holes for brackets should be measured for accuracy. The distance is approximately 11 and 1/2 inches. The cut out under the TLB is for the connector on the bottom side. The cut-out can be smaller if one wishes.