



APPLICATION		REVISIONS			
NEXT ASSY	USED ON	REV	DESCRIPTION	DATE	APPROVED
		A	PRODUCTION RELEASE/SEE E.O. 34196	1-6-99	L.D.HATCH
		B	SEE E.O. 34456	5-10-99	L.D.HATCH
		C	SEE E.O. 34673	9-30-99	L.D.HATCH
		D	SEE E.O. 35345	<i>WLS</i> 9-20-01	<i>WLS</i>

MANUAL

- SHEET 0 - THIS SHEET
- SHEET 1 - FEATURES
- SHEET 2 - GENERAL SPECIFICATIONS
- SHEET 3 - EXPLODED ASSY VIEW & PARTS REFERENCE
- SHEET 4 - ASSY INSTRUCTIONS
- SHEET 5 - CASH DRAWER MOUNTING CONFIGURATIONS
- SHEET 6 - OPERATION
- SHEET 7 - KIT NUMBERING SCHEME



REV STATUS OF SHEETS	REV	D	D	C	C	C	C	C	D									
	SHEET	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE ARE : FRACTIONS    DECIMALS    ANGLES ±                    .XX±                    ± XXX± DO NOT SCALE DRAWING	CONTRACT NO.		 INDUSTRIAL ELECTRONIC ENGINEERS, INC. VAN NUYS, CALIFORNIA	TITLE MANUAL, PDK-111B-XXXXXX INSTALLATION & OPERATING INSTRUCTIONS				
	APPROVALS	DATE						
TREATMENT	DRAWN	ISIS WOLFE	12-14-98	SIZE		CAGE CODE	DWG NO.	REV
FINISH	CHECKED	D.SUMMERS	1-5-99	A	05464	PDK-111B-INOPML	D	
	ISSUED	L.HATCH	1-6-99	SCALE -		PROJ NO. 468	SHEET 0 OF 7	





DISPLAYS  
KEYBOARDS  
INTEGRATED PANELS

INDUSTRIAL ELECTRONIC ENGINEERS, INC. 7740 Lemona Ave., Van Nuys, CA 91409-9234, U.S.A. • Tel 818-787-0311

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## **PDK-111B-XXXXXX\* VF POS Pole Display Kit**

### **INSTALLATION and OPERATING INSTRUCTIONS**

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#### **Key Features:**

- Vacuum Fluorescent (VF) display - 2 line x 20 character 9mm 5x7 dot matrix - with contrast enhancing filter, EIA-232 interface, detachable DB-25 host interface/DB25M printer interface/power supply cable and 24Vdc wall mount power supply.
- Fully Plug-and-Play compatible with the EPSON DM-D101 pass-through base system.
- Display module housed in a compact, impact resistant enclosure with four-position tilt-recline and 330° swivel adjustment. Pole and mounting base kit are included.
- Display certified to the requirements of UL, CE, TUV and FCC Part 15, Class A.

(\* Refer to Page 7 for exact configuration of your kit).

#### **Table of Contents:**

**Page 2** provides General Specifications and an introduction to the Assembly and Installation of the pole display.

**Page 3** provides an exploded view of your pole display assembly with part numbers, so you can identify and verify that you have all the parts ordered.

**Pages 4 and 5** provide instructions for assembling the display and attaching it using one of many mounting configurations.

**Pages 6 and 7** provide information on how to operate the display, including information on the interconnection configuration and protocol.

**Page 7** also provides the kit numbering scheme that defines the exact contents as referenced by the number on the lid of the shipping box

**PDK-111B-XXX** defines the characteristics of the display head (i.e. display type, software functionality, pole position, housing color and filter color) and cannot be revised.

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## **PRODUCT SUPPORT**

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For information not found in these Instructions; please contact IEE's Sales Application Engineering Department:

**Industrial Electronic Engineers, Inc.**  
7740 Lemona Avenue  
Van Nuys, California 91409-9234 USA

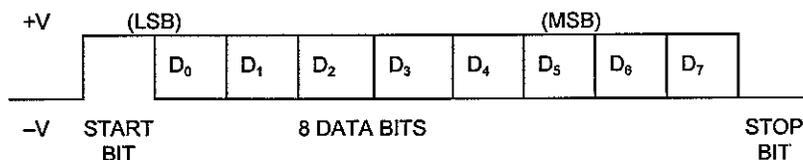
Phone: (800) 422-0867 or (818) 787-0311  
Fax: (818) 901-9046  
E-mail: [mail@ieeinc.com](mailto:mail@ieeinc.com)

**PDK-111B-INOPML**  
September 17, 2001

## GENERAL SPECIFICATIONS

### Interface:

<ul style="list-style-type: none"> <li>• <b>Power:</b></li> </ul>	Supply voltage	11-29 Vdc	<ul style="list-style-type: none"> <li>• <b>Pin Assignments:</b></li> </ul>	
	Supply current @24 Vdc	213 ma (max)	<b>Host Cable</b>	<b>Display Cable</b>
	Supply risetime	100 milliseconds (max)	DB25M	DB25F
<ul style="list-style-type: none"> <li>• <b>Caution:</b></li> </ul>	Supply sequencing	Rapid ON/OFF sequencing is not recommended.	COM	1 COM
	Start cycle	The display is not ready to accept data until 1.2 seconds after application of power.	RXD	2 TXD
			TXD	3 RXD
			DTR	6 DSR
<ul style="list-style-type: none"> <li>• <b>Signal:</b></li> </ul>	Serial EIA-232	9600 baud - 8 bits - no parity	SIG GND	7 SIG GND
	Serial input levels	+3V to +15V (space/logic 0)	DSR	20 DTR
	-3V to -15V (mark/ logic 1)	N.A.	<b>Display Cable</b>	<b>Printer</b>
	Data Format		DB25M	DB25F
			(Same as above)	



### Environmental:

- **Operating Temperature:** 0 to +70 °C (+32 to +158 °F)
- **Storage Temperature:** -20 to +70 °C (-4 to +158 °F)
- **Relative Humidity:** 0 to 95% (non-condensing)

## ASSEMBLY and INSTALLATION

### Overview

To achieve the greatest mounting and cabling flexibility available in a POS pole display system, this kit provides a cable break a few inches from the pod. The DIN8M on the module pigtail cable connects to the DIN8F on the Host Printer/Power cable assembly after it has been installed and routed through the pole. This allows easy connect and disconnect of the display module.

The DIN8F should be routed through any holes, slots, etc. in the installation and mounting hardscape (organizers, hardware, mounting surfaces, mounting bases or kits) between the Host DB25/Printer DB25 and Power Supply connections before it is routed through the pole, from the bottom (threaded end). The independent power supply cable provides additional flexibility in locating the wall mount power supply.

Pages 3, 4 and 5 provide information on the assembly and installation/attachment of the pole display. Details are provided for attaching the pole to a variety of bases, kits, surfaces and organizers.

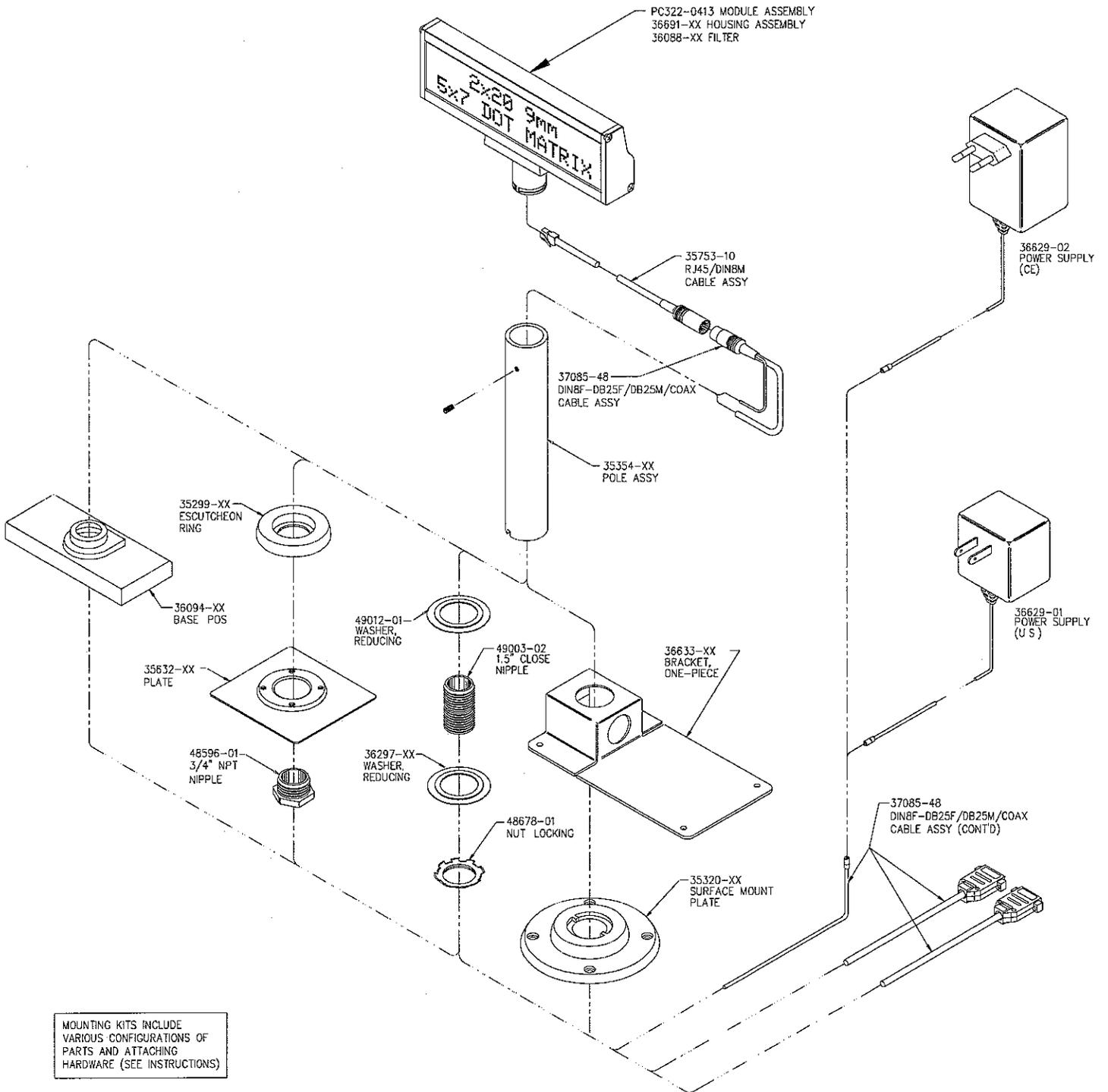
### Installation Instructions:

Perform these electrical installation steps after, or as a part of, the attachment instructions appropriate for the specific mechanical installation.

1. Disconnect host cable from printer connection, leave cable connected to the host. Connect the DB25M (male) on the host cable to the DB25F (female) on the display cable.
2. Connect the DB25M (male) display cable connector to the printer DB25F (female).
3. Connect the wall mount power supply coax into the display cable coax and plug the power supply into an appropriate AC outlet.
4. A blinking cursor should appear in the left-most position on the top line. The POS display is now ready for operation with an EPSON DM-D101 command set interface.

# EXPLODED ASSEMBLY VIEW and PARTS REFERENCE

## PDK-111B-XXXXXX POS POLE DISPLAY DISTRIBUTOR KIT TYPE 3C POD RS232 INTERFACE



# ASSEMBLY INSTRUCTIONS

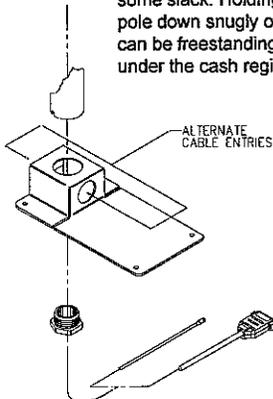
## Mounting Kits:

- **36714-0X PASS THROUGH BASE MOUNTING KIT (standard)**
  - (1) 36094-XX BASE
  - (1) 48596-01 CONDUIT NIPPLE
- **35360-0X SURFACE MOUNTING KIT**
  - (1) 35320-XX SURFACE MOUNT PLATE
  - (1) 48596-01 CONDUIT NIPPLE
- **36231-0X ICD POLE KIT**
  - (1) 36297-XX WASHER, REDUCING
  - (1) 49003-02 CLOSE NIPPLE
  - (1) 49012-01 WASHER, REDUCING
  - (1) 48678-01 LOCKNUT
- **35697-0X BASE KIT, HEAVY METAL**
  - (1) 35632-XX PLATE, MULTI-PURPOSE
  - (1) 35299-XX ESCUTCHEON RING
  - (1) 48596-01 CONDUIT NIPPLE
- **36634-0X MOUNTING KIT, SHEET METAL BASE**
  - (1) 36633-XX BASE, SHEET METAL
  - (1) 48596-01 CONDUIT NIPPLE
  - (4) 48765-10 #8-18 PAN HEAD SCREW, THD FORMING
- **36631-99 APG BRACKET KIT**
  - (1) 36630-99 BRACKET, POLE
  - (1) 48596-01 CONDUIT NIPPLE
  - (2) 48989-02 #8-32 PAN HD. SCREW, LOCKWASHER
  - (2) 43311-04 #8-32 NUT, HEX

## Surface Mount and Freestanding Configurations:

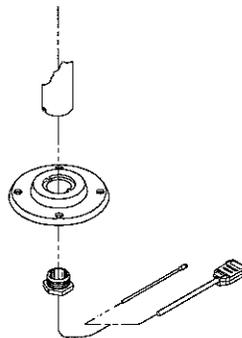
### Mounting Kit, Sheet Metal

Thread the DIN8F connector through a hole in the mounting surface or one of the two side openings in the bracket and then through the conduit nipple. Thread the connector through the bracket top hole and into the threaded end of the pole, continue to feed the cables in until the connector emerges from the pole, and pull out some slack. Holding the conduit nipple in place screw the pole down snugly onto the bracket. The sheet metal base can be freestanding, mounted with 48765-10 screws or slid under the cash register, etc.



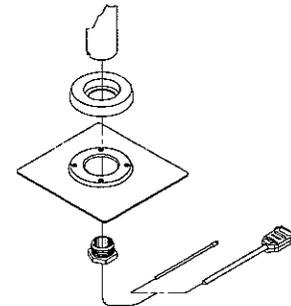
### Surface Mount Plate

Thread the DIN8F connector through a hole in the mounting surface and conduit nipple, or breakout one of the tabs in the surface mount plate (use wide, square jaw pliers) and route the cable through the conduit nipple. Thread the cable through the surface mount plate and pole. Holding the pole in the plate, tighten the conduit nipple into the pole. Attach the mounting plate to the surface, being careful to route the cables through the breakout tab if applicable.



### Base Kit, Heavy Metal

Thread the DIN8F connector through a hole in the mounting surface and conduit nipple or just through the conduit nipple. Thread the cable through the base, escutcheon ring and pole. Pull some cable slack through, push the nipple into the recess in the base, put the pole in place in the escutcheon ring and tighten it onto the nipple threads until snug.



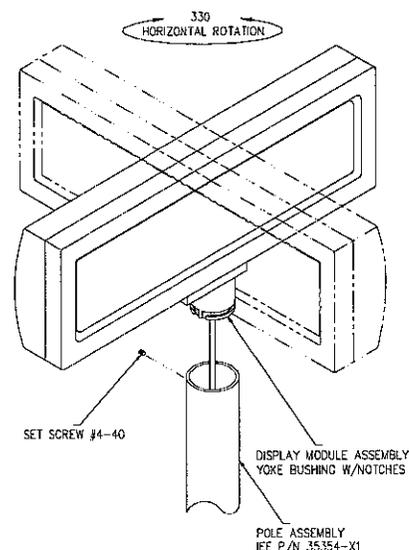
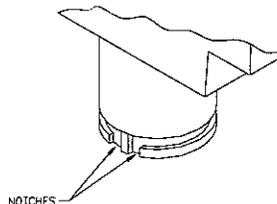
## Display Module and Pole Assembly:

The display module is attached to the pole assembly by mating the DIN8 connectors, inserting the display yoke into the pole at the end closest to the set screw, and then rotating the display.

1. Push the cable slack back into the pole
2. Insert the display module partially into the pole and align the set screw with one of the two notches on the yoke bushing
3. Push the yoke bushing completely into the pole, then rotate the module on the pole as desired.

### TO REMOVE THE MODULE:

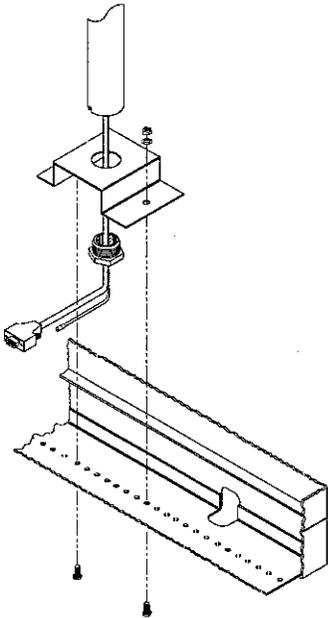
Rotate the module in either direction until the set screw touches the stop on the yoke, then pull the module straight out from the pole until the DIN8 connectors are exposed and the module can be disconnected.



## CASH DRAWER MOUNTING CONFIGURATIONS

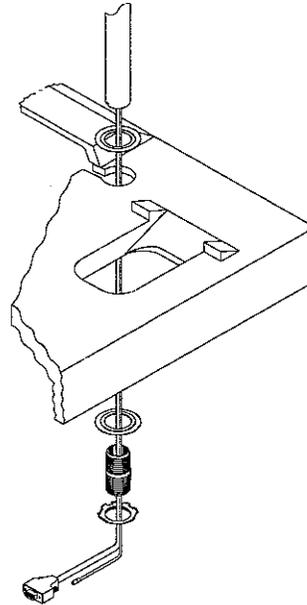
### • APG CASH DRAWER

Thread the DIN8F connector through the conduit nipple, bracket and pole, pulling out some slack. Hold the nipple in place and tighten the pole down onto the bracket. Mount the assembly (through the partner) in the selected position along the row of mounting holes at the rear of the drawer using the hardware as shown.



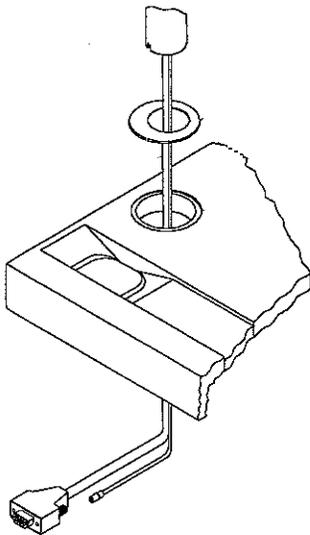
### • INDIANA CASH DRAWER

Remove the mounting bracket on the underside of the shoe. Tighten the close nipple into the pole. Thread the DIN8F connector through the locknut, metal washer, shoe, painted washer and pole. Put the pole on the painted washer and tighten it in place with the locknut.



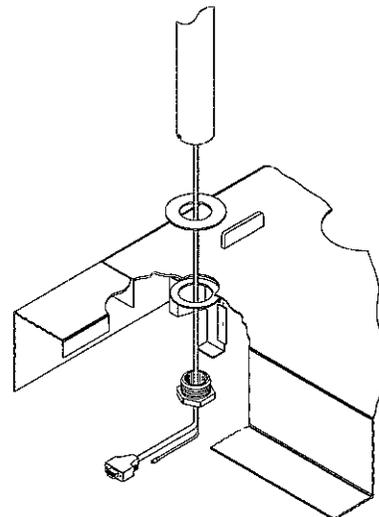
### • MMF CASH DRAWER

Loosen the U-clamp nuts on the pole mounting bracket in the POS platform system. Thread the DIN8F connector through the POS platform, eccentric washer and pole. Seat the pole in the bracket to full depth and tighten the U-clamp nuts to secure the assembly in place.



### • MS CASH DRAWER

Remove the clamp assembly from the mounting bracket on the underside of the POS deck. Thread the DIN8F connector through conduit nipple, small washer, POS deck, painted washer and pole, pulling out some slack. Slide the small washer under the edges of the spotwelded bracket at the underside surface of the POS deck. Hold the nipple in place through the washer and tighten the pole onto the nipple, over the painted washer, to secure the pole.

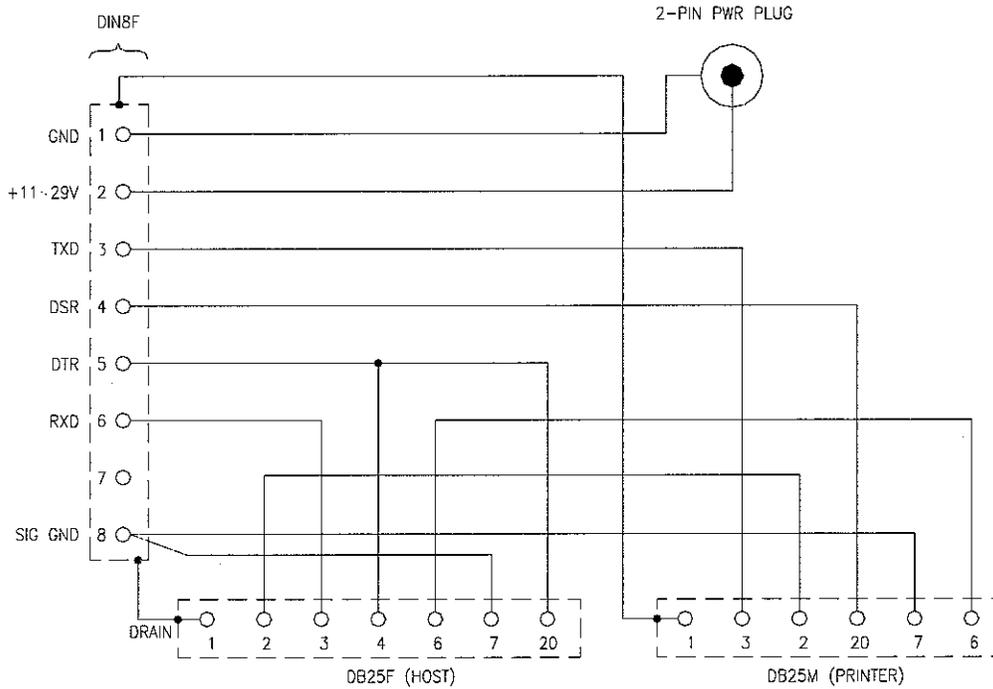


# OPERATION

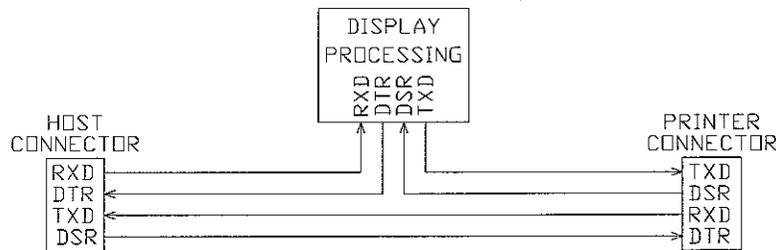
The display module is pre-loaded with EPSON DM-D101 pass-through system software. The protocol is 9600 baud, 8 data bits, no parity and 1 Stop bit (EPSON default) The display is set to operate in Mode A and all character sets are stored in accessible memory (no switch selection of character set is required).

The following data is provided to assist the user in understanding the operation of the pass-through system:

## WIRING DIAGRAM - Pass-through cabling



## SIGNAL FLOW - System DIAGRAM



## FUNCTION

- 1 Data from the Host is stored in the Display Receive Buffer.
- 2 The data is processed and only Printer data is transmitted to the Printer.
- 3 Data from the Printer is transmitted directly to the Host

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## OPERATION

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### SERIAL INTERFACE CONTROL and TIMING

Data reception from the Host:

DTR [MARK] - Indicates Display **Not Ready** to receive data.

[MARK=1] conditions:

1. Printer not ready (when Printer is selected by command).
2. Receive Buffer space is 10 bytes or less.
3. Display in Self-Test.

DTR [SPACE] - Indicates Display **Ready** to receive data.

[SPACE=0] conditions:

1. Printer ready.
2. Receive Buffer space is 20 bytes or more.
3. Display is ready immediately after Self-Test.

Data transmission to the Host.

DSR [SPACE] - Indicates Host ready to receive data from Printer.

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## KIT NUMBERING SCHEME

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PDK-[111B]- 0<sub>1</sub> X<sub>2</sub> X<sub>3</sub> 0<sub>4</sub> X<sub>5</sub> X<sub>6</sub>

### POLE POSITION

- 0 = CENTER/NO OPTION
- C = CENTER
- L = LEFT SIDE
- R = RIGHT SIDE

### HOUSING COLOR

- W = WHITE (IEE IVORY GRAY)
- B = JET BLACK

### FILTER COLOR

- A = AMBER
- B = BLUE
- G = GREEN
- N = NEUTRAL GRAY  
(DISPLAY APPEARS AQUA)

### POLE LENGTH

- 0 = NOT PROVIDED
- B = MINIMUM LENGTH (2 IN.)
- S = SHORT (6 IN.)
- D = MEDIUM SHORT (10 IN.)
- M = MEDIUM (12 IN.)
- L = LONG (18 IN.)
- X = EXTRA LONG (22 IN.)

### MOUNTING KIT

- 0 = NOT SUPPLIED
- 1 = MNTG KIT, UNIVERSAL
- 2 = MNTG KIT, HARD
- 3 = MNTG KIT, SHEET METAL
- 4 = BASE KIT, PASS THRU
- 5 = BASE KIT, HEAVY METAL
- 6 = SURFACE MOUNT KIT
- A = MNTG KIT, APG BRACKET
- I = MNTG KIT, ICD POLE
- C = MNTG KIT, MS CASH

### POWER SUPPLY

- 0 = NOT SUPPLIED
- 1 = 115VAC-24VDC/US-COAX (2.1MM)
- 2 = 230VAC-24VDC/CE-COAX (2.1MM)

NOTE: THE SUB-SET PDK -[111B] -0<sub>1</sub>X<sub>2</sub>X<sub>3</sub> DEFINES THE DISPLAY ASSEMBLY IN THIS PDK KIT.