



MTP-2232/2242 Modular Thermal Printer

MTP-2222 Printer without presenter

MTP-2200 Series Modular Thermal Printer

User Manual



TELPAR

A Platinum Equity COMPANY

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TELPAR

187 Crosby Road

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ATTN.: Warranty Service Department.

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Upon inspection, Telpar will make necessary repairs or replacement and return the merchandise, shipping prepaid.

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1 General

The MTP-2200 series of modular thermal printers is designed specifically for the high performance, size and durability requirements of cut and drop (or cut and present with optional Document Presenter) applications. The compact size and high performance characteristic, coupled with its rugged design, makes it ideal for the kiosk environment.

These models make up the MTP-2200 Series covered in this manual:

- MTP-2222 SP - 60 mm (2.36 in) paper width
- MTP-2232 SP - 85 mm (3.35 in) paper width .
- MTP-2242 SP - 114 mm (4.49 in) paper width .
- OPTIONS include: -P = with Document Presenter.
 F5 = with 512 Kbytes of FLASH memory.
 P1 = with 1 Mbyte of PAGE RAM memory.

1.1 Applications

- Kiosks
- Automated Teller Machines (ATMs)
- Parking ticket dispensing
- Gaming receipts

1.2 Standard Features

- Direct thermal printing
- Interfaces : Serial or parallel
- Auto Cutter : full cut/partial cut under software control is standard
- All metal construction
- Adjustable paper low sensor
- Paper auto load function
- ESC/POS ^o [\[1\]](#) The commands conform to ESC/POS
- Print speed of up to 80 mm/sec (3.1 in/sec); 640 dot lines/second
- LEDs visible and DIP switches accessible without removing cover
- Paper capacity : 152 mm (6 in) diameter roll with 50 mm diameter core
- Overall size including 152 mm (6 inch) diameter roll of paper :
 - MTP-2222: 163 mm x 115 mm x 231 mm(6.4"H X 4.5"W X 9.1"D)
 - MTP-2232/2242: 163 mm x 170 mm x 231 mm(6.4"H X 6.7"W X 9.1"D)
- International character set : U.S.A., France, Germany, England, Denmark (2 choices), Sweden, Italy, Spain (2 choices), Japan, Norway, Latin America and Korea
- Barcode embedded symbologies: UPC-A, UPC-E, EAN 13, EAN 8, 3of 9, ITF, CODABAR, and Code 128
- Two resident font sizes
- Code pages 437, 850, 858, 860, 863, 865, and WPC 1252.
- Bit image mode
- Reverse video mode
- Black mark sensing (TOF mode)

1.3 Options for the MTP-2200 Series

- Paper width :
 - 60 mm (2.36 in) – MTP-2222
 - 85 mm (3.35 inch) – MTP-2232
 - 114 mm (4.49 in) – MTP-2242
- Microsoft[®] Windows[®] driver [\[2\]](#)
- Document Presenter (-P option)
- FLASH memory , 512Kbytes (F5 option)
- PAGE memory (RAM), 1Mbyte (P1 option)

1.4 General Specifications

- Resolution : 8 dots/mm (203 dots/in)
- Paper thickness : 0.06 mm to 0.10 mm maximum (.0024 in to .0039 in)
- Operating temperature : 5° C to 40° C (41° F to 104° F)
- Storage temperature : -20° C to 60° C (-4° F to 140° F)
- Operating humidity : 20-85% RH (non-condensing)
- Weight : Standard configuration without paper 2.0 kg (4.5 lbs.)
- Expected life of mechanism: 50 km minimum due to wear
- Expected life of cutter: 3 x 10⁵ cuts for the MTP-2242, 5 x 10⁵ cuts for the MTP-2222 and MTP-2232

1.5 Safety / Agency Information

Information Technology Equipment IEC 950
 Product Safety: UL 1950 / EN60950
 EMC: CFR47 / Part 15 / EN55022
 File Number: 188263
 Project: 00NK40431

1.6 Power Supply Requirements

1.6.1 External Power Supply (supplied separately)

Use a Listed/Certified Power Supply.
Follow local wiring codes for external wiring.

1.6.2 Voltage : 24 VDC \pm 5%

No requirement for external 5 VDC power supply, the 5 VDC for logic is supplied from the 24 VDC, by a regulator internal to the printer.

This printer prints using high speed currents at a low duty cycle. Typically, a switching power supply rated at 24 Volts DC. 2 Amps is all that is needed as long as the power supply does not have too much over current protection.

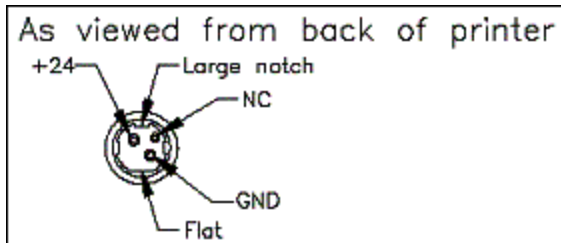
Current (A) for Printer Head			
Printing rate	Printer Model	Avg	Peak
Solid	MTP-2222	1.75	4
Black-out	MTP-2232	2.25	5
	MTP-2242	3	7
Typical ASCII text	MTP-2222	1	2.5
	MTP-2232	1.25	2.5
	MTP-2242	1.5	3.5

Table 1 - Current (A) for Printer Head

Current (A) for Motor	
Peak = 1.0 A, typical = <0.1 A	

Table 2 - Peak Current for Motor

1.6.3 3-Pin Hosiden Connector on Printer for Power Supply Connection



Power Connector::
Hosiden #TCS7960-53-2010
Mating Connector:
Hosiden #TCP8927-53-1100 or
TCP8927-63-1110

Figure 1 - 3-Pin Hosiden Power Supply Connector

1.7 Telpar Roll Paper for MTP-2200 Series

Thermal sensitive coating is on the "inside" of the roll.

- For MTP-2222: 152 mm (6 in) outside diameter, 60 mm (2.36 in) wide, approximate length 180 m (590 ft) P/N 251410-0602
- For MTP-2232 152 mm (6 in) outside diameter, 85 mm (3.35 in) wide, approximate length 180 m (590 ft) P/N 251102-1603
- For MTP-2242 152 mm (6 in) outside diameter, 114 mm (4.49 in) wide, approximate length 180 m (590 ft) - P/N 251410-0604

Specific to Thermal Printers: TELPAR does not warranty damages to the thermal print head as a result of printing with thermal paper not specified or approved by TELPAR

2 Operator Instructions

2.1 Unpacking and Inspection

Carefully unpack and inspect your MTP-2200 for any damage that may have occurred in transit. Should any damage have occurred, notify TELPAR, save the shipping carton and packing materials, and file a damage claim with the carrier. Specify the nature and the extent of the damage. Before installing or operating the printer, check the following:

- Printer mechanism and paper path are clear of all packing materials or other foreign matter.
- Paper is installed. DO NOT OPERATE the printer without paper. Refer to Section 2.2 - Paper Loading for paper loading instructions.

2.2 Paper Loading

2.2.1 Side-Loading Roll

The MTP-2222 printer is configured as a side-loading printer. Slide roll of paper over spindle with paper fed off the bottom toward the paper slot (front of unit).

To load paper, turn on the power and feed the straight edge of the paper into the paper guide. Inserting paper will result in the automatic loading of paper once it is fed into the paper guide.

Ensure that the paper is installed correctly and feeding properly with the thermal side facing up.

2.2.2 Top Loading Roll

The MTP-2232 and MTP-2242 printers are configured as a drop in loader. Load the roll of paper by placing the spindle inside the roll of paper and place spindle in slots with paper fed off the bottom toward the paper slot (front of unit).

To load paper, turn on the power and feed the straight edge of the paper into the paper guide. Inserting paper will result in the automatic loading of paper once it is fed into the paper guide.

Ensure that the paper is installed correctly and feeding properly with the thermal side facing up.

2.3 Paper Jam

In the event of a paper jam condition do not force paper into the unit, or try to pry the paper out of the unit, this may damage the thermal print mechanism. Caution should be exercised when working next to the cutter mechanism, the blades are sharp and may cause serious injury.

To release paper:

- Move Head Up lever to right of Advance wheel to top position
- Lift cutter mechanism to "Open position (See - MTP-2242 with *Cutter Mechanism open*) Paper can be removed at this time. Once paper is cleared from the mechanism, return the cutter assembly to its home position. Models MTP-2222, MTP-2232 and MTP-2242 all operated similarly
- Move Head Up lever to right of Advance wheel to the bottom position to return to printing position

2.3.1 Head Up Lever

The Head Up lever is located by the Paper Feed knob. The down position is ready to print. The middle position reduces pressure between the printhead and the print platen roller for easier manual feeding. The up position lifts the printhead off of the platen roller for manually inserting paper or for clearing a paper jam. Both the middle and up positions signal the microprocessor that the head is up so that no printing will occur.

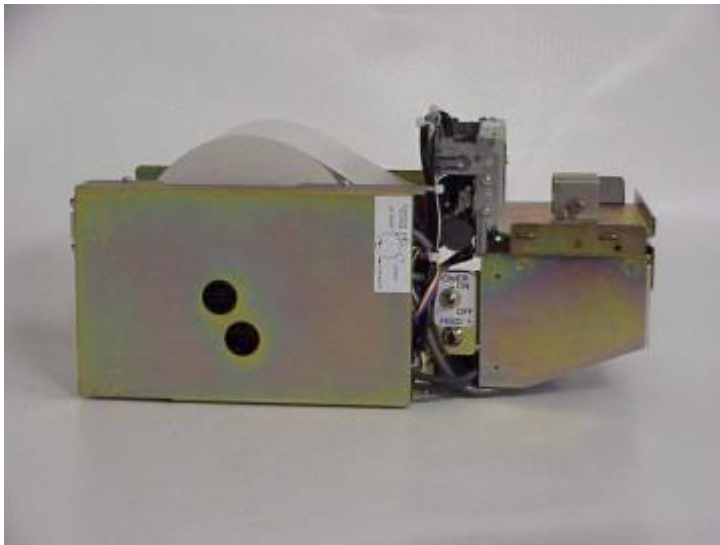


Figure 2 - MTP-2242 with Cutter Mechanism closed

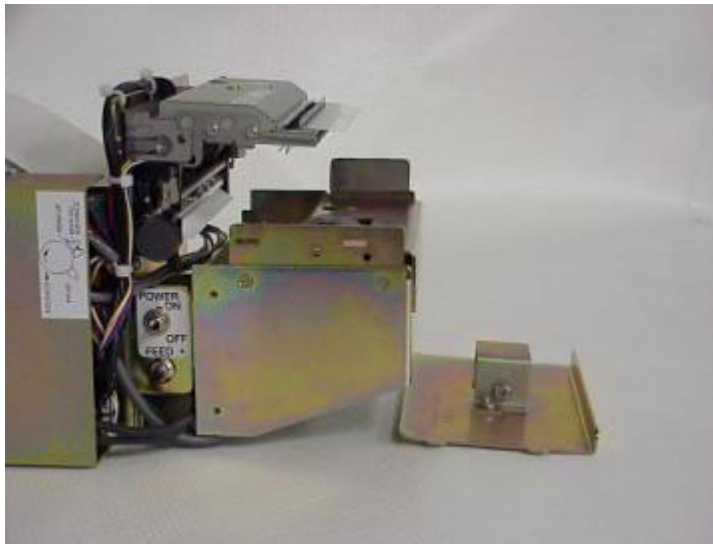


Figure 3 - MTP-2242 with Cutter Mechanism open

3 Installation

3.1 Self Test Mode (also Burn-in and Hex Dump modes)

The MTP-2200 series has a self-test mode that will print and cut a sample document. All electrical and mechanical portions of the printer are exercised and checked by this action, except for the serial interface or parallel interface components. The self-test printout also shows pertinent information pertaining to operation of the printer.

3.1.1 Self Test

To place the unit into self-test mode : turn the power switch off, press and hold the FEED push button switch and place the POWER switch in the ON position, then release the paper feed switch. See Figure 4 - MTP-2242 Self Test Printout for examples of the self-test printout.

3.1.2 Factory Burn-in Mode

If the paper feed button is held for 4 seconds after power is turned on, the printer will enter the Factory Burn-In Mode. A hundred shorter sheets will be printed.


3.1.3 Hex Dump printing mode

If the paper feed button is held for 8-12 seconds after power is turned on, the printer will enter the Hex Dump Mode. All codes received will be printed in HEX format rather than causing the normal execution, this may be useful for troubleshooting applications.

3.1.4 Continuous Factory Burn-in Mode

If the paper feed button is held for 12 seconds after power is turned on, the printer will enter the CONTINUOUS Factory Burn-In Mode that does not stop after 100 sheets are printed.

3.1.5 MTP-2242 Self Test Printout



TELPAR, INC.
 4181 Centurion Way
 Addison, TX 75001
 (972) 233-6831 | (800) 872-4886
 www.telpar.com | info@telpar.com

Current temperature = 25 deg C

[Print Mechanism]
 FTP-642HCL

[Firmware Version]
 Beta Release: V1.07E, June 2000

[Factory Jumper Settings]
 Jumpers 1, 2, 3, 7 & 8 are reserved.
 Jumper 4 - Paper Low Attached
 Jumper 5 - Cutten Attached
 Jumper 6 - Delivery Attached

[Input Buffer Size = 6144 Bytes]

[System ROM Size = 262143 Bytes]

[System Heap Size = 162847 Bytes]

[Optional RAM Size = 1048575 Bytes]

[Print Intensity Adjust - R1]
 Lighten Print Normal Darken Print
 CDH Normal CH
 |-----|-----|-----|

[Configuration Settings]
 Key: Active = █
 Disabled = X

Pos: Switch #1:
 ON OFF

8	█	Parallel (ON), Serial (OFF)
7	X X	DTR/CTS (ON), XDN/XOFF (OFF)
6	X X	Data Bits - 7 (ON), 8 (OFF)
5	X X	Parity - (ON) or (OFF)
4	X X	Type - Odd (ON), Even (OFF)
3	X X	BAUD Rate Select
2	X X	BAUD Rate Select
1	X X	BAUD Rate Select

[Baud Rate Selection Table]
 SW3: SW2: SW1: Baud Rate:
 OFF OFF OFF 2400
 OFF OFF ON 4800
 OFF ON OFF 9600
 OFF ON ON 14.4K
 ON OFF OFF 19.2K
 ON OFF ON 28.8K
 ON ON OFF 31.2K
 ON ON ON 38.4K

Pos: Switch #2:
 ON OFF

8	X X	Reserved
7	X X	Reserved
6	█	International Character Table
5	█	International Character Table
4	█	International Character Table
3	█	International Character Table
2	█	Purge - Eject (ON), Retract(OFF)
1	█	TDF - (ON) or (OFF)

4 Interface Specifications

4.1 General

The MTP-2200 Series may be configured to be a Serial RS-232 interface or an IEEE-1284 Parallel interface by DIP Switch settings .

4.1.1 Setting of DIP Switches

4.1.1.1 DSW1 – DIP Switch

DIP Switch 1 (DSW1) Settings						
Item	Bit No	Setup status			Setup state	Factory settings
		Bit 1	Bit 2	Bit 3	Baud Rate	
Serial-interface-communication baud rate setting	1,2,3	OFF	OFF	OFF	2400	19200
		ON	OFF	OFF	4800	
		OFF	ON	OFF	9600	
		ON	ON	OFF	14.4K	
		OFF	OFF	ON	19.2K	
		ON	OFF	ON	28.8K	
		OFF	ON	ON	31.2K	
Parity selection	4		OFF		Even	Even
			ON		Odd	
			OFF		No parity	
Parity use	5		ON		Parity	
			Number of data bits	6		OFF
Serial handshake	7					ON
			Interface Selection	8		OFF
ON		DTR				
Interface Selection	8		OFF		Serial	Parallel
			ON		Parallel	

Table 3 - DIP Switch 1 (DSW1) Settings

4.1.1.2 DSW2 – DIP Switch 2

DIP Switch 2 (DSW2) Settings							
Item	Bit No	Setup Status				Setup State	Factory settings
Top of Form sensor	1	OFF				Disabled	Disabled
		ON				Enabled	
Purge setting	2	OFF				Retract	Retract
		ON				Eject	
Reserved	3, 4, 5, 6	3	4	5	6	Intl Char / Code Page	USA / CP437
		OFF	OFF	OFF	OFF	USA / CP437	
		ON	OFF	OFF	OFF	France / CP858	
		OFF	ON	OFF	OFF	Germany / CP858	
		ON	ON	OFF	OFF	England / CP858	
		OFF	OFF	ON	OFF	Denmark / CP858	
		ON	OFF	ON	OFF	Sweden / CP858	
		OFF	ON	ON	OFF	Italy / CP858	
		ON	ON	ON	OFF	Spain / CP858	
		OFF	OFF	OFF	ON	Japan / CP850	
		ON	OFF	OFF	ON	Norway / CP865	
		OFF	ON	OFF	ON	Denmark 2 / CP858	
		ON	ON	OFF	ON	Spain 2 / CP858	
		OFF	OFF	ON	ON	Latin America / CP437	
		ON	OFF	ON	ON	Korea / CP850	
		OFF	ON	ON	ON	Reserved	
ON	ON	ON	ON	Reserved			
Reserved	7						
Reserved	8						

Table 4 - DIP Switch 2 (DSW2) Settings

4.1.1.3 JP9 - Configuration straps

JP9 - Configuration straps			
Strap#	Name		
1	Erase FLASH	ON	Erase optional FLASH memory when power is turned on.
		OFF	No affect on FLASH.
2		ON	
		OFF	
3		ON	
		OFF	
4	Paper Low	ON	Paper Low sensor is installed.
		OFF	Paper Low sensor is not installed.
5	Cutter	ON	Cutter is installed.
		OFF	Cutter is not installed.
6	Document Presenter	ON	Presenter is installed.
		OFF	Presenter is not installed.
7		ON	
		OFF	
8		ON	
		OFF	

Table 5 - Configuration strap Settings

4.1.1.4 Other Strap Options

Other Strap Options			
Location	Name	Position	Description
JP1	FLASH size	A20	4 Mbit (256K x16) optional FLASH is installed
		unmarked	8 Mbit (512K x16) optional FLASH is installed
JP2	EPROM size	unmarked	< 256K x 8 EPROM installed
		256K	=> 256 x 8K EPROM installed
JP3	EPROM size	unmarked	<1M x 8 EPROM installed
		1M	1M x 8 EPROM installed
JP4	EPROM size	unmarked	< 512K x 8 EPROM installed
		512K	=> 512K x 8K EPROM installed
JP5	System RAM size	32	32K x 8 RAM installed
		512	512K x 8 RAM installed
JP6	EPROM size	32	32K x 8 EPROM installed
		128	=> 128K x 8 EPROM installed
JP7	FLASH option	WP	Optional FLASH is Write Protected
		unmarked	Optional FLASH can be overwritten
JP8	FLASH option	BBL	Boot Block of optional FLASH is locked
		Unmarked	CAUTION – Boot block can be overwritten
JP9	Configuration		See previous section
JP10	Test points		Factory use only
JP11	Serial port		Factory use only
JP12	Boot function	BF	Boot up to FLASH
		BR	Boot up to ROM
JP13	Optional FLASH	Unmarked	Install if JP9 is set to BF
		OFF	Install if JP9 is set to BR
JP14	LED2	ON	Connect drive signal to LED2 and J10 pin 4
		OFF	LED2 and J10 pin 4 have no drive signal
JP15	Buzzer	ON	Connect drive signal to BUZZER and J10 pin 2
		OFF	BUZZER and J10 pin 2 have no drive signal
JP16	Connect LED2 and BUZZER		Install ONLY if either JP11 or JP12 (but not both) are installed.

Table 6 - Other Strap Options

4.2 Control Codes and Control Sequences

4.2.1 General Usage Print Commands

General Usage Print Commands			
Name	Command	Command	Description
	ASCII	hex	
Tab	HT	09	Move the print position to the next horizontal tab position. See ESC D. If a TAB is received and there are no more tab positions set on the current line, the TAB command is ignored. If the TAB will exceed the right margin, an auto-print is performed and the print position is set to the start of the next line.
Line feed	LF	0A	Data on the current line is printed, paper is fed one line based on the current line spacing, and the print position is set to the left margin. If the current line spacing is set to less than the current font height then paper is fed to print the current font height (see ESC 2, ESC 3 +n, and ESC C +n).
Form Feed	FF	0C	Feed paper to end of page as defined by the default page length of 11 inches or as modified by the US C command. If TOF mode is enabled (DIP switch 2 position 1 or ESC c 1 +n)) then paper is fed until the next BLACK MARK is detected. To advance to the BLACK MARK if TOF mode is not enabled use the GS FF command.
DLE	DLE	10	Data Link Escape Sequence Header.
Enable Auto Status Back	DLE A +n1 +n2	10 41 +n1 +n2	+n1 and +n2 define a mask to enable the transmission of the STATUS bytes when a user defined event occurs. See Section 4.2.2.1 - Status commands . Default = 00 00 (ASB disabled).

Buffered STATUS request	DLE B	10 42	The STATUS bytes are transmitted when this command is processed out of the receive buffer. See Section 4.2.2.1 - Status commands .
Real time STATUS request	DLE R	10 52	The STATUS bytes are transmitted when this command is received by the printer. See Section 4.2.2.1 - Status commands .
User selected data string	DLE U +n1 +n2	10 55 +n1 +n1	When DLE U +n1 +n2 is processed out of the receive buffer, the printer will transmit DLE U +n1 +n2 back to the host.
ESC	ESC	1B	ESCAPE Sequence Header.
GS	GS	1D	GROUP SEPARATOR Sequence Header.
US	US	1F	UNIT SEPARATOR Sequence Header.
Reverse Video ON	ESC RS	1B 1E	Printing is reversed to white characters on black background. Reverse video requires more power to print and is less readable. (Same as GS B 01).

Name	Command	Command	Description
	ASCII	hex	
Reverse Video OFF	ESC US	1B 1F	Printing is set to default mode of black print on white background. (Same as GS B 00).
Set Print mode	ESC ! +n	1B 21 +n	Set Print mode = font A or B, Double high, Double wide. See Section 4.2.2.2 - Set Print Mode .
Select Bit Image mode	ESC \ +m +n1 +n2 +d1~dn	1B 2A +m +n1 +n2 (data)	Select Bit Image mode. +m = ?. n2*256 + n1 = Number of DOT LINES of data to follow. (data) = the amount of data required to complete the sequence. Telpar does not fully support this command. Please refer to US * command which follows.
Underline	ESC - +n	1B 2D +n	Bit 0 of n = 0 turns underlining OFF. Bit 0 of n = 1 turns underlining ON. Default is OFF.
Set 1/6" line spacing	ESC 2	1B 32	Set 1/6 inch line spacing.

Set Line feed pitch	ESC 3 +n	1B 33 +n	Set line spacing to n dot lines. If the n specified is less than the height to print text using the currently selected character set then printing will cause enough paper feeds to print the entire line but a print command with no data in the buffer will cause paper to feed by this amount. Default is 1/8 inch
Printer reset	ESC @	1B 40	Initialize. See Section 4.2.2.3 - Printer Reset .
Set page length	ESC C +n	1B 43 +n	Set page length to n character lines using the current font. Overwrites the page length defined by US C.
Set Horizontal Tab positions	ESC D +d1~dn NUL	1B 44 (data) 00	Set from 1 to 32 tab positions in the current character size. Data values range from 1 to 255 in ascending order. The NUL character (00 hex) terminates this command if less than 32 tab settings are being set. If a data value is less than the previous data value, this command is terminated. ESC D NUL clears all tab positions. Default is every 8 columns. Print after a tab starts in the column following the tab setting specified.
Forward paper feed for n dot lines	ESC J +n	1B 4A +n	Feed paper n dot lines. If there is data in the buffer, it is printed and paper is fed the difference of the +n and the amount needed to print the data. Range = 0 to 255 dec.
Select International character set	ESC R +n	1B 52 +n	Select international character set. Range = 0 through 15 dec. See Figure 16 - International Character Sets for characters affected for each character set.
Select justification for bar code	ESC a +n	1B 61 +n	n=00hex, left justify. n=01hex, center justify. n=02hex, right justify. GS L, GS W, and ESC \ will also affect the bar code justification.

Name	Command	Command	Description
	ASCII	hex	
Select paper type	ESC c 1 +n	1B 63 31 +n	Bit 0 = 0, Normal paper. Bit 0 = 1, TOF (Black Mark sensor) enabled. Default is based on Dip switch 2 position 1.
Paper sensor to output PE signal	ESC c 3 +n	1B 63 33 +n	Command is not implemented, all four bytes will be ignored.
Paper sensor to stop printing	ESC c 4 +n	1B 63 34 +n	Command is not implemented, all four bytes will be ignored.
Select CODE PAGE	ESC t +n	1B 74 +n	n = 0, code page 437 (standard USA). n = 2, Code page 850 (Multilingual). n = 3, Code page 860 (Portuguese). n = 4, Code page 863 (Canadian-French). n = 5, Code page 865 (Nordic); n=10 hex, WPC1252; n=13 hex, Code page 858 (Multilingual with Euro character)
Feed to Top of Form	GS FF	1D 0C	If TOF mode is disabled (DIP switch 2 position 1 or ESC c 1 +n) then paper is fed until the trailing edge of the Black Mark sensor is detected, the current page length is reached, or the printer runs out of paper.
Select character size	GS !	1D 21 +n	Bits 7,6,5,4 for width, Bits 3,2,1,0 for height. Can select 1,2,4, or 8 times normal size. 0hex = 1X size, 1hex = 2X size, 2hex = 4X size, and 3hex = 8X size.
Reverse video	GS B +n	1D 42 +n	Bit 0 of n = 1 causes Reverse Video to be printed (same as ESC RS). Bit 0 of n = 0 turns Reverse Video off (same as ESC

			US).
HRI position	GS H +n	1D 48 +n	Select HRI printing position for bar codes, n = 00hex no HRI printed. n = any value other than 00hex, HRI printed below the bar code.
Set left margin	GS L +nH +nL	1D 4C +nH +nL	Sets the left margin to nH*256 + nL dot positions from the left side of the print head. Default = 0 (leftmost dot). The value being set must be equal to or less than the right margin minus 80 dots. If the margin is set to any invalid value this command is ignore. Range = 0 to Right Margin - 80.
Paper cut	GS V +n +m	1D 56 +n +m	If n = 0 (either 00hex or 30hex) a full cut is performed and the +m byte is not needed. If n = 1 (either 01hex or 31hex) a partial cut is performed and the +m byte is not needed. If n is a capital A (41hex) then paper is fed for m dot lines and then a full cut is performed. If n is a capital B (42hex) then paper is fed for m dot lines and then a partial cut is performed. If a presenter is installed, only full cuts are performed.
Name	Command ASCII	Command hex	Description
Set Right Margin	GS W + nH + nL	10 57 + nH + nL	Set the right margin to nH*256 + nL dot positions from the left side of the print head. Default = maximum dot count for the printer mechanism minus 1. The value being set must be equal to or greater than the left margin plus 80 dots. If the margin is set to any invalid value this command is ignore. Range = Left Margin +80 to rightmost dot.
HRI font	GS f	1D 66 +n	Not implemented, the controller selects a font and size to best fit under the bar code being printed.
Set Bar code	GS h +n	[1D 68 +n	Set the bar code height in

height			dots. Default = 64. Range - 1 to 255 dec.
Bar code printing	GS k +m +n +d1~dn	[1D 6B +m +n (DATA)]	Selects the bar code type and prints. See Section 4.2.2.7 – Print Bar Code Command .
Set Bar code magnification	GS w +n	[1D 77 +n]	Set the width of the bars used to print bar codes. The width of a narrow bar is set to n. Range = 1 to 8. Default = 2. A setting of n=1 prints a bar code so small it is possibly not readable..
Bit image command	US * +nH +nL +data	1F 2A +nH +nL +data	256*nH +nL defines how many bytes of bit image data will follow. See Section 4.2.2.6 - Bit Image (BI) Graphics Mode .
Set Page Length	US C +nH +nL	1F 43 +nH +nL	Sets the page length to 256*nH +nL dot lines. Default is 11 inches. Overwrites the page length set by ESC C.
Eject/retract ticket	US E	1F 45 +n	Bit 0 of n = 0 sets the mode to RETRACT an untaken ticket back into the printer. Bit 0 of n = 1 sets the mode to EJECT an untaken ticket out the front of the printer. See DIP SWITCH 2 position 2 for the default.
Set timeout to use before an untaken ticket is purged	US K	1F 4B +n	If a document is cut and presented (but not removed) and another document is sent to the printer, the first document will not be purged (either Ejected or Retracted) until +n seconds after the first document is presented. Default is 5 second.
Global IEEE-1284 STATUS Enable / Disable	US S +n	1F 53 +n	Low order nibble of +n = 0 disables all STATUS transmissions in IEEE-1284 parallel mode. Low order nibble of +n = 1 thru F enables STATUS transmission. Default is disabled. See Section 4.2.2.1 - Status commands .
Name	Command ASCII	Command hex	Description
Start of Document for	US b	1F 62	Used only by Telpar's Windows drivers. See

WINDOWS			Section 4.2.2.4 - Telpar's Window Commands.
End of Document for WINDOWS	US e	1F 65	Used only by Telpar's Windows drivers. See Section 4.2.2.4 - Telpar's Window Commands.
Set horizontal Print Position	US x +nH +nL	1F 78 +nH +nL	The horizontal print position is set to $(256 * nH + nL) * 8$ dots from the left margin. See Section 4.2.2.6 - Bit Image (BI) Graphics Mode .
Set Relative Vertical move	US y +nH +nL	1F 79 +nH +nL	Causes paper to feed $256 * nH + nL$ dot lines. See Section 4.2.2.6 - Bit Image (BI) Graphics Mode Commands .
Set Horizontal Print Position ABSOLUTE	US A	1F 41	Sets the x-move function (see US x +nH +nL) to be a move relative to the left margin. See US R.
Set Horizontal Print Position RELATIVE	US R	1F 52	Sets the x-move function (see US x +nH +nL) to be a move relative to the current position. Default setting. See US A.

Figure 5 - General Usage Print Commands

4.2.2 Descriptions of Commands

4.2.2.1 Status commands

All transmission of status in IEEE-1284 mode is disabled at power on. Status transmission must be enabled by the US S +n command before any STATUS transmission will occur in IEEE-1284 mode.

In case of an ERROR as defined in the table below, the printer transmits DLE E and the 2 status bytes. The response to a STATUS REQUEST is to transmit DLE (10hex) followed a SOURCE byte that distinguishes what type of status is being transmitted followed by the two status bytes as defined in the table below.

The SOURCE byte is defined as:

A = Auto Status Back . Is disabled by default but is enabled when the printer receives the DLE A +n1 +n2 command. +n1 and +n2 define a mask using the same byte/bit structure as in the table below. A "1" in a bit position enables the automatic transmission of DLE A and the 2 status bytes when an enabled condition occurs. The bit positions marked as errors in the table will always cause the automatic transmission of DLE E and the 2 status bytes so these positions will usually be "0" in the user defined mask.

B = Buffered status . DLE B and the 2 status bytes are transmitted when the DLE B command is processed out of the input buffer.

R = Real Time Status . If enabled by US R +n command, DLE R and the 2 status bytes are transmitted immediately when the DLE R command is received by the printer.

U = not a true STATUS request. When DLE U +n1 +n2 is processed out of the receive buffer, the printer transmits DLE U +n1 +n2 back to the host. The user can send DLE U +n1 +n2 anywhere within a document if he needs to know that the printer has processed the document up to that point.

First Status byte transmitted (and MASK for DLE A command)		
Bit	Type	Function/condition
7	Status	Spare
6	Status	Spare
5	Status	Receive buffer is full
4	ERROR	Cutter Error
3	Status	Printer Busy
2	Status	Receipt Taken
1	Status	Receipt Dropped
0	ERROR	Delivery Jam

Table 7 - First Status byte transmitted (and MASK for DLE A command)

Second Status byte transmitted (and MASK for DLE A command)		
Bit	Type	Function/condition
7	Status	Spare
6	Status	Print head over temperature
5	Status	Spare Sensor
4	Status	Paper Low
3	Status	Cutter Home
2	Status	Paper at Delivery
1	ERROR	Paper Out
0	ERROR	Head Up

Table 8 - Printer's response to a STATUS REQUEST command

4.2.2.2 Set Print Mode

ESC ! +n [1B 21 +n]

+n is defined as:

Bit 7 --- Not used.

Bit 6 --- Not used.

Bit 5 --- 0 = Double high print OFF.

1 = Double high print ON.

Bit 4 --- 0 = Double wide print OFF.

1 = Double wide print ON.

Bit 3 --- Not used.

Bit 2 --- Not used.

Bit 1 --- Font size.

Bit 0 --- Font size.

Set Print Mode Table		
Bit 1	Bit 0	Font size (WxH)
0	0	FontB (10x30)
0	1	FontA (12x30)

Table 9 - Set Print Mode Table

Both double wide and double high can be selected for either character size. When a printed line contains characters with different heights, the characters are arranged so that the baseline of all characters lines up. Default = 00hex (Font B, 10 x 30 matrix) for MTP-2222. Default = 01hex (Font A, 12 x 30 matrix) for MTP-2232 and MTP-2242

4.2.2.3 Printer Reset

ESC @ [1B 40]

Initializes the printer.

Any data received before the ESC @ but not yet printed is cleared. The character size is set to the default font. The DIP Switch setting sets international character set. Left and Right Margins are set to the defaults. Reverse video is turned off. Underline printing is turned off. Bar code height is set to 64. Bar code magnification is set to 2.

4.2.2.4 Telpar's Window Commands.

use of device fonts for print speed enhancement, the Begin Document (US b) and End Document (US e) commands were created for use by the Telpar Windows driver. These two commands should not be sent to the printer by any other application program since unexpected results will occur.

4.2.2.5 Language Monitor Information

Not available at publication date

4.2.2.6 Bit Image (BI) Graphics Mode Commands

BI US * +nH +nL +data 1F 2A +nH +nL +data

256*nH +nL defines how many bytes of bit image data will follow. The data is received sequentially with the first byte representing the first 8 dot positions at the top left side of the bit image with bit 7 being to the left and bit 0 being to the right as printed.

XMOVE US x +nH +nL 1F 78 +nH +nL

The horizontal print position is set to (256*nH + nL) * 8 dots from the left margin.

If there is a lot of white space on the current dot line, the XMOVE command can cause the print location pointer to be moved resulting in less data required to define a dot line of bit image data to be printed. Anytime there is more than 4 bytes of white space (32 dots) the XMOVE command will result in less data being sent to the printer. Another BI command can follow the XMOVE command until a YMOVE signifies the end of the current dot line.

YMOVE US y +nH +nL 1F 79 +nH +nL

Causes paper to feed 256*nH + nL dot lines. This is also the BI line terminator and print command.

4.2.2.7 Print Bar Code Command

GS k +m +n +d1~dn [1D 6B +m +n (DATA)]

+m selects the bar code type. +n defines the number of data bytes which follow.

If more data is sent than can fit on the printer being used, the bar code is not printed.

+m	Bar code	+n	Valid data	comment
41	UPC-A	11	0-9	Checksum generated & printed
42	UPC-E	7	0-9	Checksum generated & printed
43	EAN13	12	0-9	Checksum generated & printed
44	EAN8	7	0-9	Checksum generated & printed
45	Code39	variable	0-9 A-Z sp \$%*-. /	
46	ITF	variable.	0-9	If an odd number of data bytes is sent, a leading zero will be added.
47	CODABAR	variable.	0-9 - \$: / . +ABCD	
49	CODE128	variable.	See Section 4.2.2.8 - Bar Code 128 definitions	
74	CODE 39	variable.	0-9 A-Z sp \$%*-. /	Checksum generated & printed
75	ITF	variable.	0-9	Checksum generated & printed. If the data sent and the checksum causes an odd number of digits, a leading zero will be printed.

4.2.2.8 Bar Code 128 definitions

Code128 Character set: 103 data chars, three different start characters, and a unique stop character. CodeA consists of the ASCII characters 00hex thru 5Fhex, FNC1 thru FNC4, Shift, CodeB, and CodeC. CodeB consists of the ASCII characters 00hex thru 7Fhex, FNC1 thru FNC4, Shift, CodeA, and CodeC. CodeC consists of 2 digit numeral characters 00dec thru 99dec, FNC1, CodeA, and CodeB. The 103 different bar code patterns have different meanings depending on whether CodeA, CodeB, or CodeC was specified when the data was received. The data string must start with {A or {B or {C to specify CodeA, CodeB, or CodeC. A checksum is calculated and printed by the printer.

Value used to calculate checksum	CodeA	CodeB	CodeC	Value used to calculate checksum	CodeA	CodeB	CodeC
0	(sp)	(sp)	00	54	V	V	54
1	!	!	01	55	W	W	55
2	"	"	02	56	X	X	56
3	#	#	03	57	Y	Y	57
4	\$	\$	04	58	Z	Z	58
5	%	%	05	59	[[59
6	&	&	6	60	\	\	60
7	'	'	07	61]]	61
8	((08	62	^	^	62
9))	09	63	_	_	63
10	*	*	10	64	00hex	`	64
11	+	+	11	65	01hex	a	65
12	,	,	12	66	02hex	b	66
13	-	-	13	67	03hex	c	67
14	.	.	14	68	04hex	d	68
15	/	/	15	69	05hex	e	69
16	0	0	16	70	06hex	f	70
17	1	1	17	71	07hrx	g	71
18	2	2	18	72	08hex	h	72
19	3	3	19	73	09hex	i	73
20	4	4	20	74	0Ahex	j	74
21	5	5	21	75	0Bhex	k	75
22	6	6	22	76	0Chex	l	76
23	7	7	23	77	0Dhex	m	77
24	8	8	24	78	0Ehex	n	78
25	9	9	25	79	0Fhex	o	79
26	:	:	26	80	10hex	p	80
27	;	;	27	81	11hex	q	81
28	<	<	28	82	12hex	r	82
29	=	=	29	83	13hex	s	83
30	>	>	30	84	14hex	t	84
31	?	?	31	85	15hex	u	85
32	@	@	32	86	16hex	v	86
33	A	A	33	87	17hex	w	87
34	B	B	34	88	18hex	x	88
35	C	C	35	89	19hex	y	89
36	D	D	36	90	1Ahex	z	90
37	E	E	37	91	1Bhex	{	91
38	F	F	38	92	1Chex		92

39	G	G	39	93	1Dhex	}	93
40	H	H	40	94	1Ehex	~	94
41	I	I	41	95	1Fhex	DEL	95
42	J	J	42	96	FNC3	FNC3	96
43	K	K	43	97	FNC2	FNC2	97
44	L	L	44	98	SHIFT	SHIFT	98
45	M	M	45	99	CodeC	CodeC	99
46	N	N	46	100	CodeB	FNC4	CodeB
47	O	O	47	101	FNC4	CodeA	CodeA
48	P	P	48	102	FNC1	FNC1	FNC1
49	Q	Q	49				
50	R	R	50				
51	S	S	51				
52	T	T	52				
53	U	U	53				

Code128 Start Characters

Value used to calculate checksum Data sent represents

103	{A	Start character CodeA
104	{B	Start character CodeB
105	{C	Start character CodeC

Code128 Stop Character

106	Stop character
-----	----------------

Code128, other two character data sequences: Note: Since { is used as a sequence header to specify special characters, {{ must be sent as data to actually print { in the bar code.

Data sent	represents	Data sent	represents
{1	FNC1	{S	Shift
{2	FNC2	{{	{
{3	FNC3		
{4	FNC4		

4.3 Serial (RS-232C) Interface

4.3.1 Serial (RS-232C) Interface Specification

Serial (RS-232C) Interface Specification	
Item	Specification
Data receive speed	Baud rate selected by DIP switch
Synchronizing method	Asynchronous, Full duplex
Handshake	DTR/DSR signal or XON/XOFF (selected by DIP switch)
Input output level	RS-232C
Signal level	Space (logic=0) +3 V ~ +12 V Mark (logic=1) -3 V ~ -12 V

Table 10 - Serial (RS-232C) Interface Specification

4.3.2 Serial I/O Connector

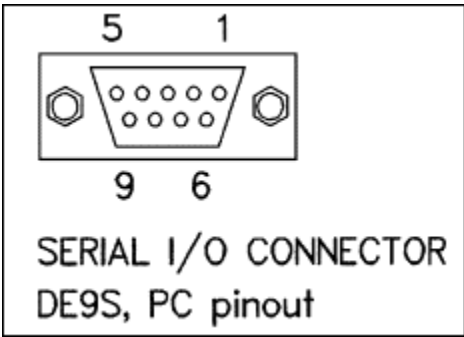
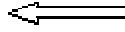


Figure 6 - Serial I/O Connector



Serial Interface RS-232C



Figure 7 - Serial Interface RS-232C

Serial (RS-232C) Interface Pin Assignments			
Pin	Name	Direction	Function
2	RD	I	RS232 received data.
3	XD	O	RS232 transmitted data.
4	DTR	O	Hardware handshake line.
5	GND	-	Logic ground.
6	DSR	I	High ("space") = OK for the printer to transmit data when requested. The state of DSR is IGNORED for XON/XOF handshaking if selected.

Table 11 - Serial (RS-232C) Interface Pin Assignments

4.3.3 Flow Control

The MTP-2200 series employs a 6 K byte data buffer to allow the host computer to rapidly transfer data. Under some circumstances it may be possible to completely fill the buffer. When the buffer is within 50 bytes of being full, the MTP-2200 signals the host computer to pause until a line of data is printed, or until the buffer is under the 50-byte limit. The flow control information is sent to the host using hardware or software protocols as determined by the DIP Switch setting.

The hardware protocol uses the DTR line of the serial interface. This pin are asserted or negated as necessary to turn off and turn on the flow of data. The software protocol uses the XON and XOFF ASCII characters (^Q and ^S) which are sent back to the host to start and stop the data stream. Some host systems may not support one or both of these protocols.

4.4 Parallel Interface (IEEE-1284)

4.4.1 Parallel I/O Connector, IEEE-1284 Type C

Parallel Interface IEEE-1284



Figure 8 - Parallel I/O Connector

Parallel Interface Pin Assignments				
J2 Pin#	Name	Cent. Name	Direction	Function in Centronics Mode (SPP)
1	PeripheralAck	BUSY	O	High level when printer cannot accept data.
2	Xflag	SLCT	O	High level when printer is on.
3	PeripheralClk	/ACK	O	Active low pulse when data is accepted
4	-PeripheralReq	/ERR	O	Low level when an error occurs.
5	-AckRev	PE	O	High level when printer is out of paper
6	IO0	DO	I/O	ASCII data bit 0 (LSB)
7	IO1	D1	I/O	ASCII data bit 1
8	IO2	D2	I/O	ASCII data bit 2
9	IO3	D3	I/O	ASCII data bit 3
10	IO4	D4	I/O	ASCII data bit 4
11	IO5	D5	I/O	ASCII data bit 5
12	IO6	D6	I/O	ASCII data bit 6
13	IO7	D7	I/O	ASCII data bit 7
14	-RevReq	/INIT	I	Low level = system reset.
15	HostClk	/STB	I	Active Low Pulse to send data tp printer
16	1284Active	/SLCTIN	I	Low level enables printer.
17	HostAck	AFXT	I	
18	HostLogicHigh		I	Host Logic High
19 thru 35		GND	-	Logic ground.
36	PeriphLogicHigh		O	Peripheral Logic High.
Shell	CGND	CGND	-	Chassis ground

Table 12 - Parallel Interface Pin Assignments - IEEE-1284 Nomenclature

4.4.2 Alternate Parallel I/O Connector, IEEE-1284 Type A or B

Connector J4 is a 26-position (2x13) straight pin header with pinout like a DB25S for connection directly to a PC parallel port. J4 is located directly behind J2, which is an IEEE-1284 type C I/O connector. A mass-terminated cable assembly can connect from J4 to a DB25S (IEEE-1284 type A).

Connector J3 is a 36-position (2x18) straight pin header with pinout like a Centronics connector for connection directly to a PC printer cable. J4 is located directly behind J2, which is an IEEE-1284 type C I/O connector. A mass-terminated cable assembly can connect from J3 to a Centronics type connector to connect to a PC printer cable (IEEE-1284 type B).

J2, J3, and J4 are connected in parallel so only one of the three can be used.

Alternate Parallel Interface Pin Assignments				
J4 Pin#	J3 Pin#	Name	Direction	Function
1	1	/STB	I	Active Low Pulse to send data to printer
2	2	DO	I	ASCII data bit 0 (LSB)
3	3	D1	I	ASCII data bit 1
4	4	D2	I	ASCII data bit 2
5	5	D3	I	ASCII data bit 3
6	6	D4	I	ASCII data bit 4
7	7	D5	I	ASCII data bit 5
8	8	D6	I	ASCII data bit 6
9	9	D7	I	ASCII data bit 7
10	10	/ACK	O	Active low pulse when data is accepted
11	11	BUSY	O	High level when printer cannot accept data.
12	12	PE	O	High level when printer is out of paper
13	13	SLCT	O	High level when printer is on.
14	14	AFXT	I	Not used.
15	32	/ERR	O	Low level when an error occurs.
16	31	/INIT	I	Low level = system reset.
17	36	/SLCTIN	I	Low level enables printer..
	18	PLHi	O	Peripheral Logic High.
18 thru 25	16, 19 thru 30		-	Logic ground.
	17	CGND	-	Chassis ground
Shell	Shell	CGND		Chassis ground
	15, 33, 34, 35	n/c	-	No connection

Table 13 - Parallel Interface Pin Assignments - Centronics nomenclature

5 Detailed Specifications

5.1 Detailed Specifications

General Specifications			
Specifications	MTP-2222	MTP-2232	MTP-2242
Printing method	Thermal-sensitive line dot method		
Dot Structure	448 dots/line	576 dots/line	832 dots/line
Dot pitch (horizontal)	0.125 mm (8 dot/mm)-Dot density		
Dot pitch (vertical)	0.125 mm (8 dot/mm)-Line feed pitch		
Effective printing area	56 mm	72 mm	104 mm

Paper width	60 mm	85 mm	114 mm
Paper thickness	0.0024 to 0.0039 inches		
Cutting type	Full or partial (Software control)		
Number of columns (default)	37 columns/line (12 x 30 dot font)	48 columns/line (12 x 30 dot font)	69 columns/line (12 x 30 dot font)
Maximum printing speed	640 dot line/s (80 mm/s)		
Character composition, dimensions (WxH),	12 x 30 dots 1.5 x 3.75 mm	12x30 dots 1.5x3.75 mm	12x30 dots 1.5x3.75 mm
Number of characters per line	37 columns	48 columns	69 columns
	10 x 30 dots 1.25 x 3.75 mm	10 x 30 dots 1.25 x 3.75 mm	10 x 30dots 1.25 x 3.75 mm
	44 columns	57 columns	83 columns
Interface	IEEE-1284 Parallel, RS-232C Serial		
Power Supply	For head	See Section 1.6 - Power Supply Requirements .	
	For motor	DC 24V± 5%, 1.0 A max., <0.1A typical	
	For cutter	DC 24V± 5%, 1.0 A max.	
Expected Life	Mechanism	Pulse durability: 1x10 ⁸ pulse/dot (standard driving method)	
		Wear resistance: 50 km (at 25% printing ratio)	
	Cutter	5 x 10 ⁵ cuts for MTP-2222 and MTP-2232, 3 x 10 ⁵ cuts for MTP-2242	
Environ-mental conditions	Operating temp.	5 to +40°C	
	Operating humidity	20 to 85% RH (No condensation)	
	Storage temp.	-20 to +60°C	
	Storage humidity	5 to 95% RH (No condensation)	
Detection	Head temp.	By thermistor (applied energy control, abnormal temperature detection)	
	Paper Out/Mark detect	By photointerrupter	
Paper	Thermal Sensitive paper		

Table 14 - General Specifications

5.2 Error Detection Function

Certain ERROR modes are reported when they occur by a sequence of blinks of LEDs DS2 and DS3 located on the controller board. The ERROR BLINK patterns are listed below and are also printed during a self-test. DS2 blinks ON four times indicated in the table below as T1, T2, T3, and T4. Following each sequence of blinks there is a pause before starting the next sequence. The ON times of DS2 is the time base used for encoding the error reporting by DS3.

DS3 blinks ON during some of the four times that DS2 blinks ON. The pattern of ON times of DS3 listed in the table below indicates the ERROR being reported.

ERROR	T1	T2	T3	T4
Paper Out	ON	OFF	OFF	OFF
Head Up	OFF	ON	OFF	OFF
Cutter Fault	OFF	OFF	ON	OFF
Delivery Jam	ON	OFF	ON	OFF

Table 15 - Error Detection Functions

5.3 Character Sets - Print Samples

MTP-2242 CHARACTER SET
PC437 (Standard U.S.A)
ESC t 00hex

	0123456789ABCDEF
20	!"#\$%&'()*+,-./
30	0123456789:;<=>?
40	@ABCDEFGHIJKLMNO
50	PQRSTUVWXYZ[\backslash]^_
60	`abcdefghijklmno
70	pqrstuvwxyz{ }~
80	ÇüéâäåàçêëèìîïÄÅ
90	ÉæÆôöòûÿÖÜç£¥ƒf
A0	áíóúñÑæø¿¬¬½¼¡«»
B0	⋮⋮⋮ †‡ ⌈⌋ ⌌⌍⌎⌏
C0	⌐⌑⌒⌓⌔⌕⌖⌗⌘⌙⌚
D0	⌛⌜⌝⌞⌟⌠⌡⌢⌣⌤⌥
E0	αβΓπΣσμτφθΩδ∞Φε∩
F0	≡±≥≤∫÷≈°•√∩2■

Figure 9 - Code Page 437 Print sample

MTP-2242 CHARACTER SET
PC850 (Multilingual)
ESC t 02hex

0123456789ABCDEF
20 !"#%&'()*+,-./
30 0123456789:;<=>?
40 @ABCDEFGHIJKLMNO
50 PQRSTUVWXYZ[\backslash]^_
60 `abcdefghijklmnop
70 pqrstuvwxyz{|}~
80 ÇüéâäåçêëèìíîËÅ
90 ÉæøöòûüÿÖÜø£ø×f
A0 áíóúñÑñ@º¿®-¼½i«»
B0 :::::|}ÁÂÀ@|||¼¢¥
C0 L| | |ãÃL| | | |
D0 šĐÊËÈ, í î ï J | | | ì ■
E0 ÓβÔòõÕµρPÚÛÜýÝ~´
F0 -±¼¶§÷, °···132■

Figure 10 - Code Page 850 Print sample

MTP-2242 CHARACTER SET
PC865 (Nordic)
ESC t 05hex

0123456789ABCDEF
20 !"#\$%&'()*+,-./
30 0123456789:;<=>?
40 @ABCDEFGHIJKLMNO
50 PQRSTUVWXYZ[\backslash]^_
60 `abcdefghijklmnop
70 pqrstuvwxyz{|}~
80 ÇüéâäåçêëèìïìÄÅ
90 ÉæøöòûùÿÖÜøŁŒf
A0 áíóúñÑªº¿¬½¼ i «»
B0 ¶·¸¹º»¼½¾¿
C0 ƒ ı Ł ł Ɔ Ɇ Ɔ Ɇ Ɇ Ɇ
D0 Ɔ Ɇ Ɔ Ɇ Ɇ Ɇ Ɇ Ɇ
E0 αβΓπΣσμτφθΩδ∞Φε∩
F0 ≡±≥≤ ρ ÷ ≈ ° • √π 2 ■

Figure 13 - Code Page 865 Print Sample

MTP-2242 CHARACTER SET
 PC1252
 ESC t 10hex

```

    0123456789ABCDEF
20   !"#$%&'()*+,-./
30   0123456789:;<=>?
40   @ABCDEFGHIJKLMNO
50   PQRSTUVWXYZ[]^_
60   `abcdefghijklmno
70   pqrstuvwxyz{|}~
80   € ,f„...t‡^%Š<Œ Ž
90   `´“” .-- ~™š>œ žÿ
A0   ¡¢£¥¦§¨ª«¬®¯
B0   °±²³´µ¶·¸¹º»¼½¾¿
C0   ÀÁÂÃÄÅÆÇÈÉÊËÌÍÎ
D0   ÑÒÓÔÕÖ×ØÙÚÛÜÝÞß
E0   àáâãäåæçèéêëìíî
F0   ñòóôõö÷øùúûüýþÿ
  
```

Figure 14 - Code Page WPC1252 Print sample

MTP-2242 CHARACTER SET
 PC858 (Euro)
 ESC t 13hex

```

    0123456789ABCDEF
20   !"#$%&'()*+,-./
30   0123456789:;<=>?
40   @ABCDEFGHIJKLMNO
50   PQRSTUVWXYZ[]^_
60   `abcdefghijklmno
70   pqrstuvwxyz{|}~
80   ÇüéâäååçêëèìîïÄÅ
90   ÉæÆôöòûÿÿÏÛø£Ø×ƒ
A0   áíóúñÑæø¿½¼ı«»
B0   ::::|}ÁÂÀ|||
C0   
D0   ðÐÊËÈÈ€ÍÎÏ
E0   ÓβÔòõÕμρÚÛÜýÝ
F0   -±¼¶§÷
  
```

Figure 15 - Code Page 858 Print sample

MTP-2242 CHARACTER SET

Default per DIP switch 2 or as changed by
ESC R +n = INTERNATIONAL CHARACTER SET

+n	hex	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
0 USA	#	\$	@	[\]	^	`	{		}	~	
1 France	#	\$	à	°	ç	§	^	`	é	ù	è	¨	
2 Germany	#	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß	
3 England	£	\$	@	[\]	^	`	{		}	~	
4 Denmark	#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	~	
5 Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü	
6 Italy	#	\$	@	°	\	é	^	ù	à	ò	è	ì	
7 Spain	¤	\$	@	í	Ñ	¿	^	`	¨	ñ	}	~	
8 Japan	#	\$	@	[¥]	^	`	{		}	~	
9 Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü	
10 Denmark 2	#	\$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü	
11 Spain 2	#	\$	á	í	Ñ	¿	é	`	í	ñ	ó	ú	
12 LatAmer	#	\$	á	í	Ñ	¿	é	ü	í	ñ	ó	ú	
13 Korea	#	\$	@	[₩]	^	`	{		}	~	

Figure 16 - International Character Sets

At power on, the International Character Set is determined by the settings of DIP Switch 2. See Section 4.1.1.2 - DSW2 – DIP Switch 2 . The International Character Set can then be changed under software control by using the ESC R command.

5.4 MTP-2222 Dimensional Drawings

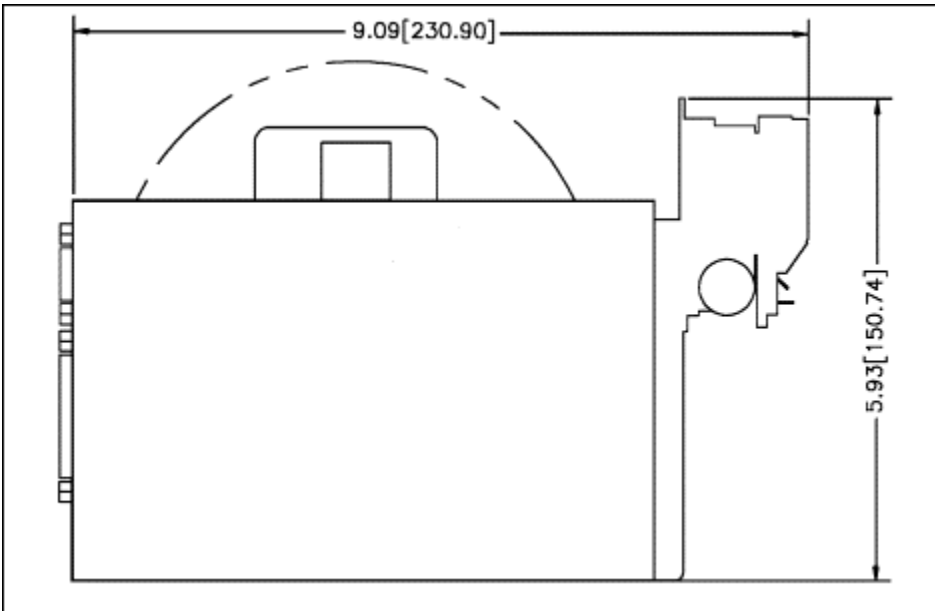


Figure 17 - MTP-2222 Left Side View

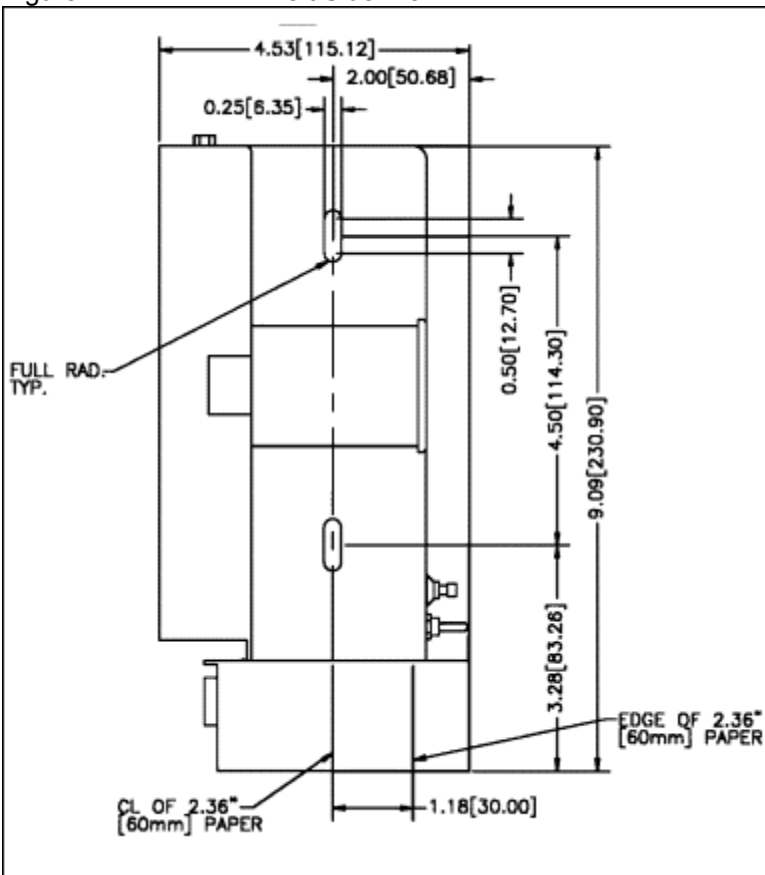


Figure 18 - MTP-2222 Top View

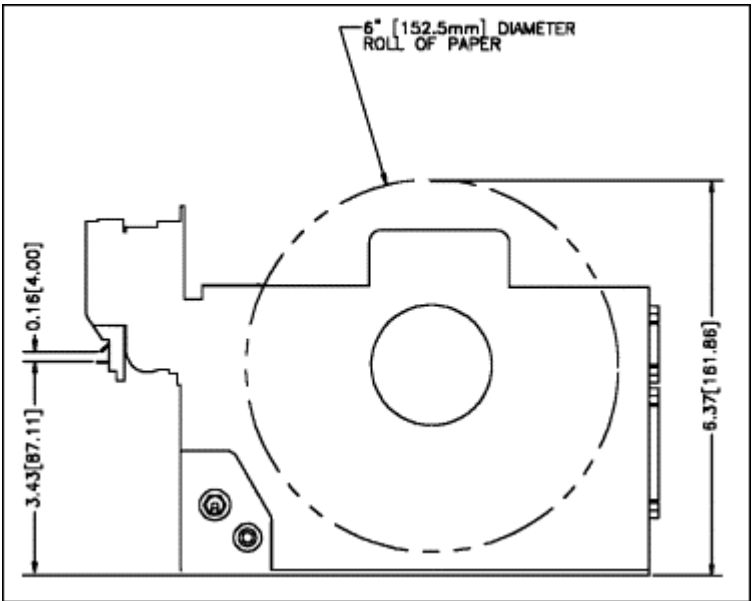


Figure 19 - MTP-2222 Right Side View

5.5 MTP-2232/MTP-2242 Dimensional Drawings

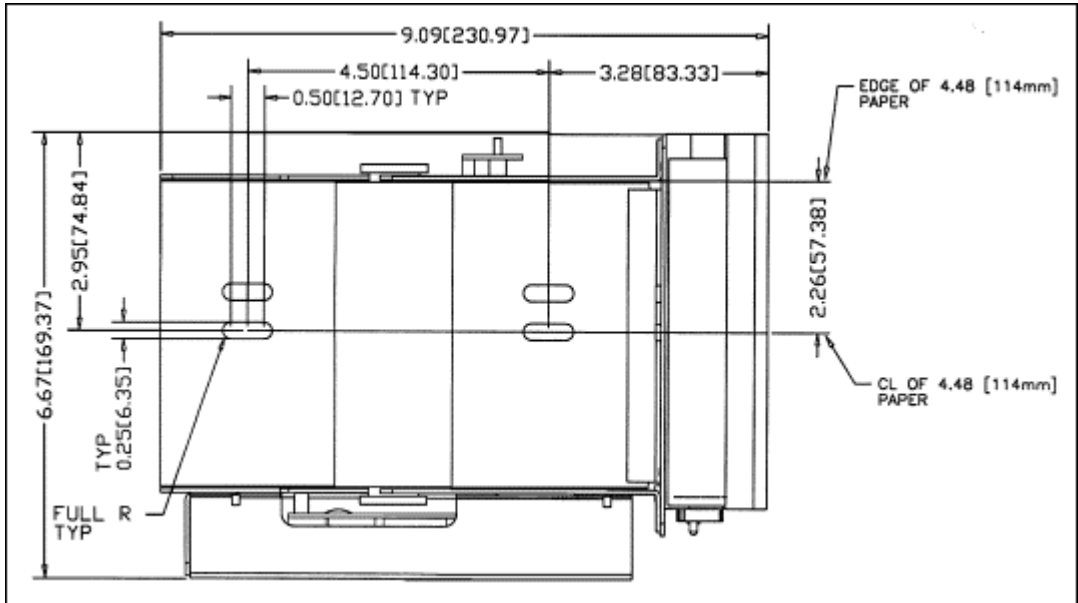


Figure 20 - MTP-2232/MTP-2242 Dimensional Drawing with Mounting Holes (Top View)

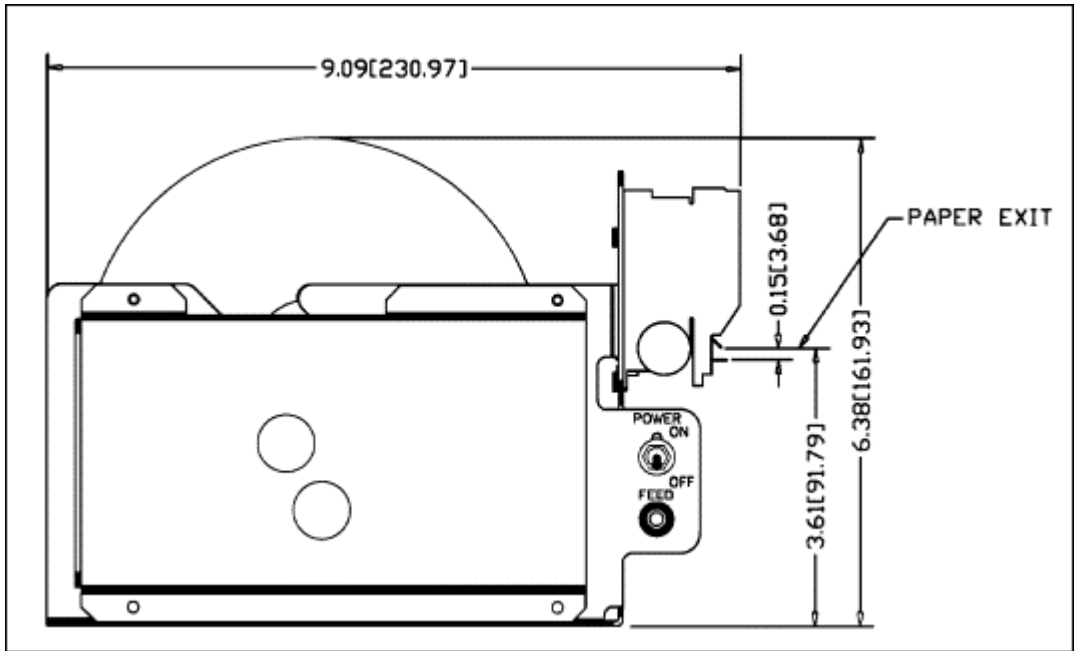


Figure 21 - MTP-2232/MTP-2242 Dimensional Drawing (Side View)

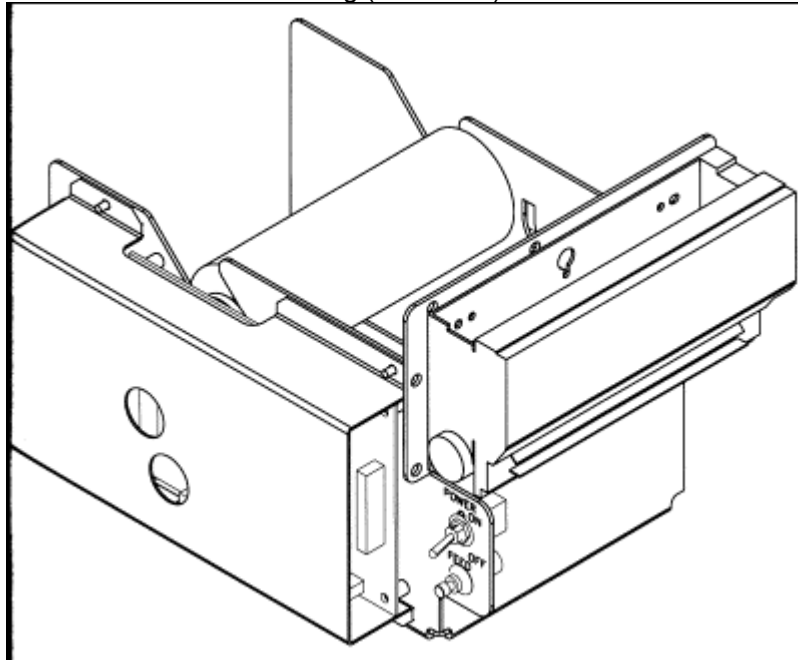


Figure 22 - MTP-2232/2242 Isometric Drawing

5.6 Dimensional Drawings With Presenter

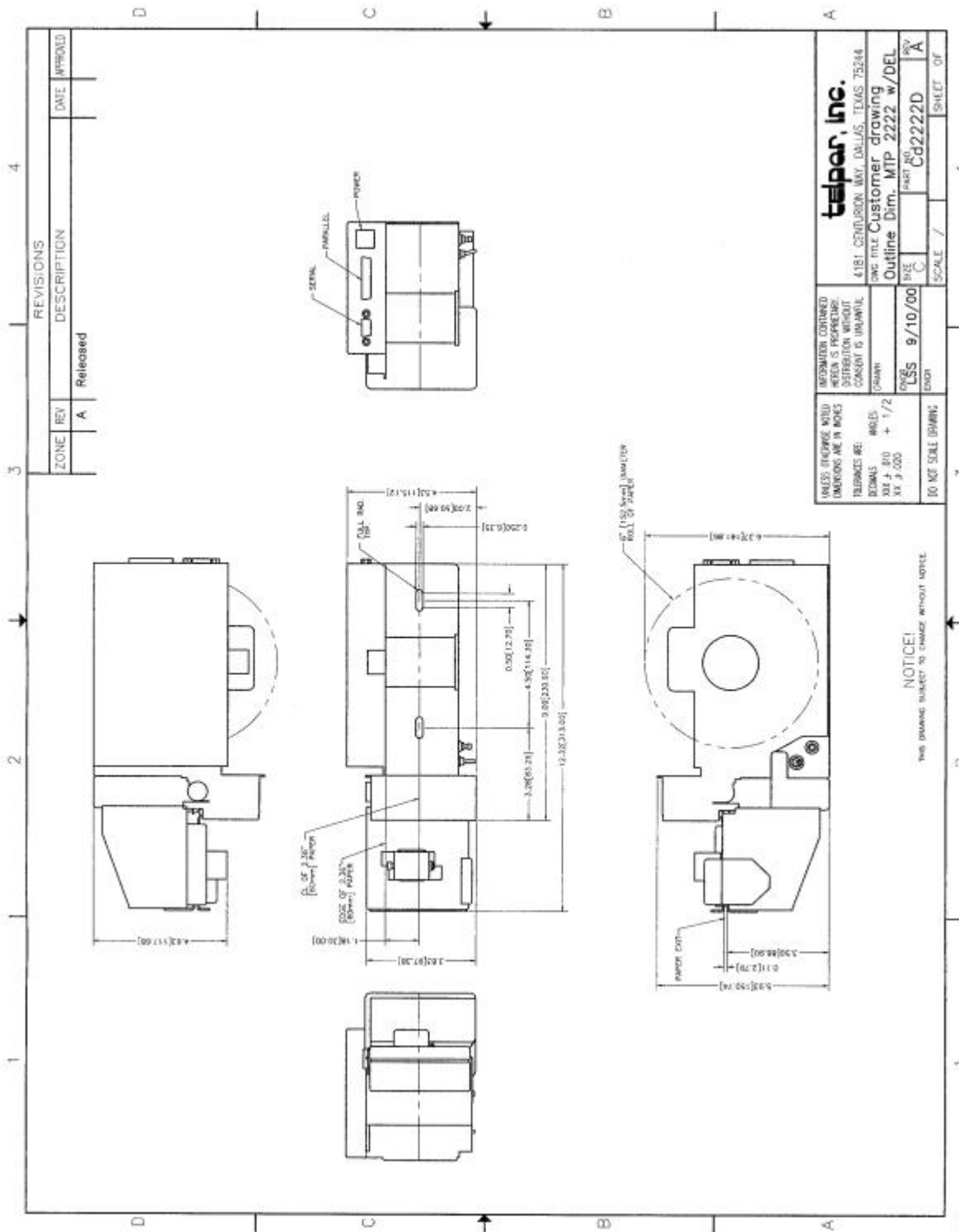


Figure 23 - MTP-2222 with Presenter

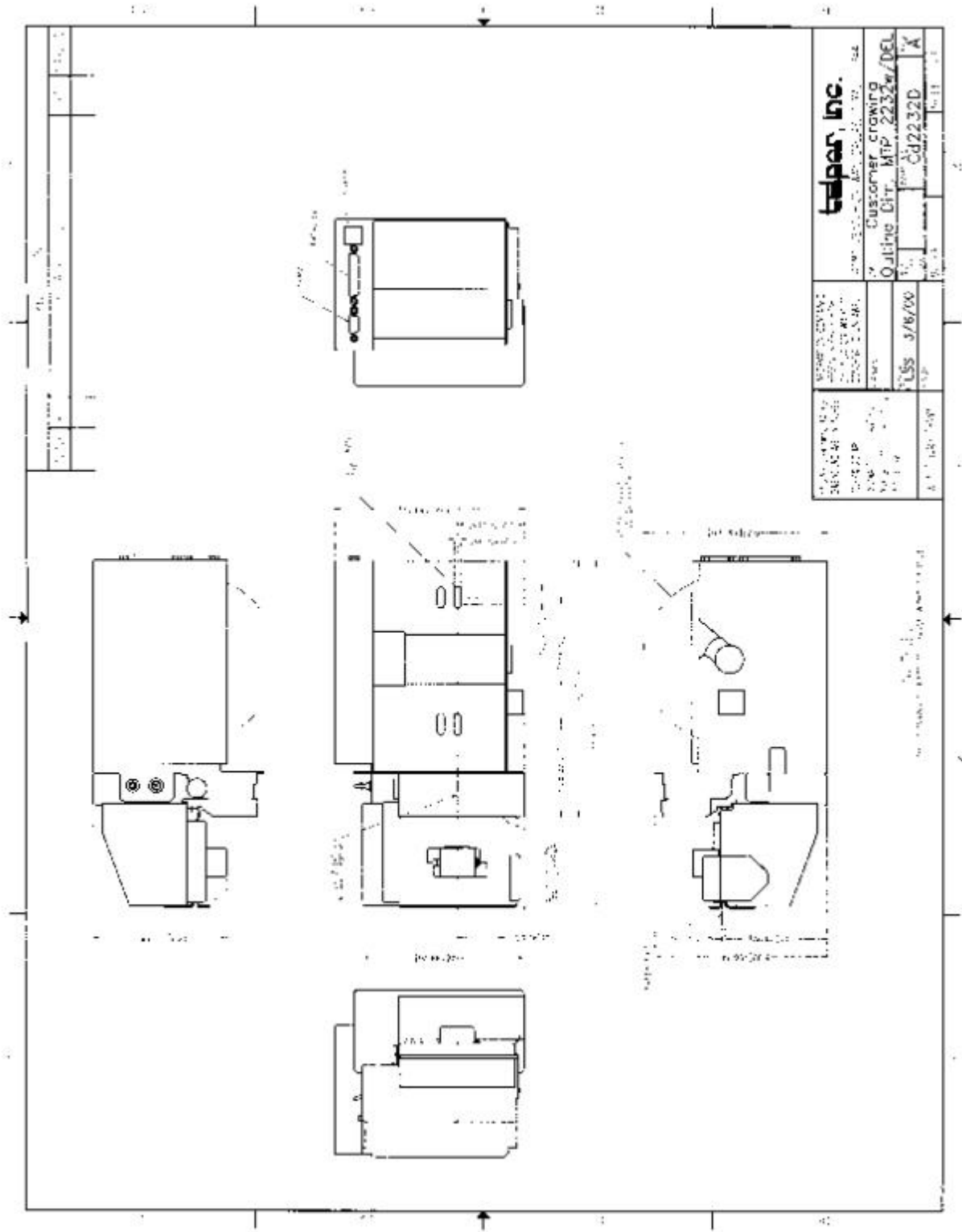


Figure 24 - MTP-2232 with Presenter

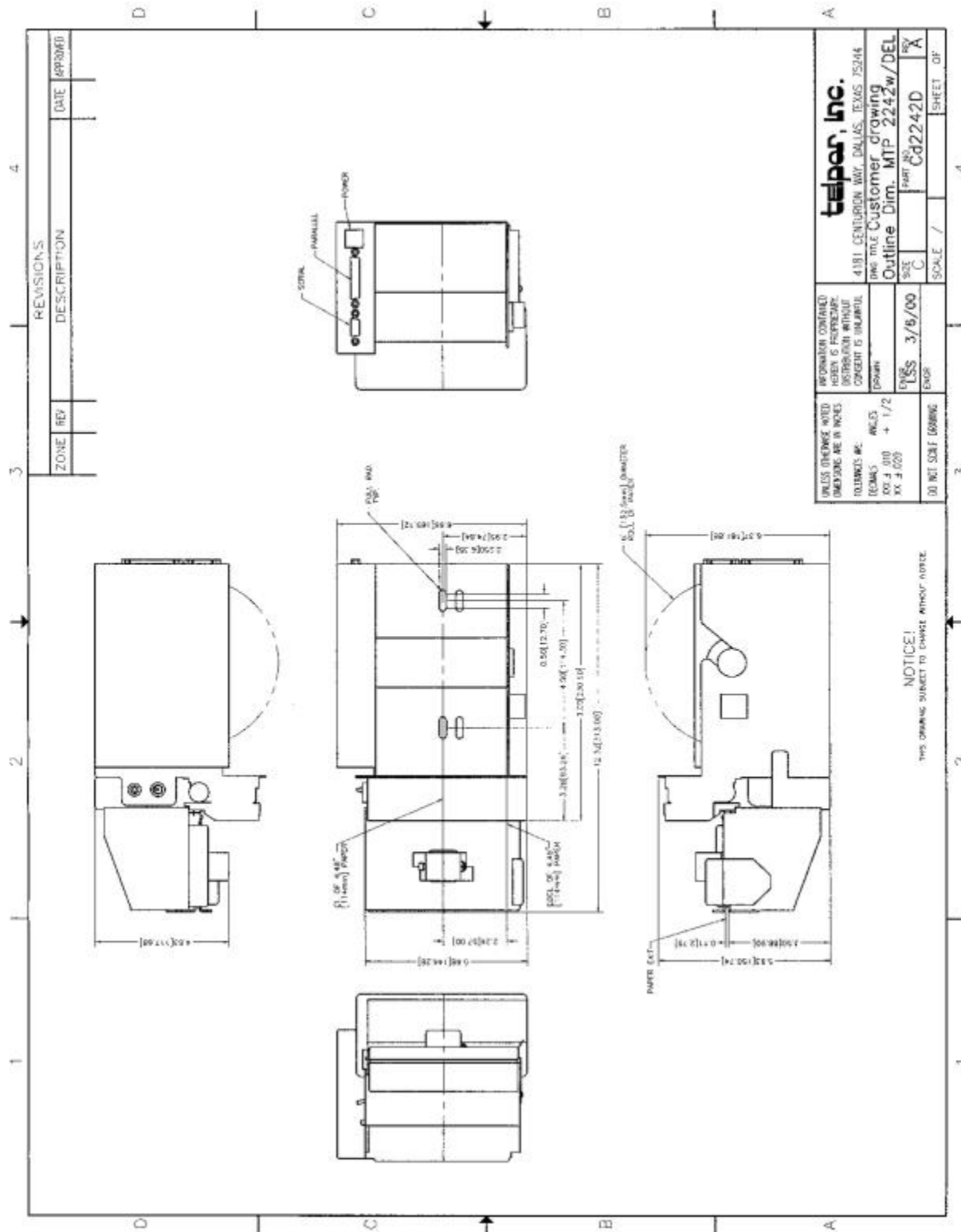


Figure 25 - MTP-2242 with Presenter

6 CE Declaration of Conformity

TELPAR

19111 North Dallas Parkway, Suite 100

Dallas, TX 75257 USA

EC Declaration of Conformity

according to
EC EMC Directive (89/336/EEC, 92/31/EEC, 93/68/EEC),
and

EC Low Voltage Directive (73/23/EEC, 93/68/EEC)

We, TELPAR, declare that the following described equipment in our delivered version complies with the appropriate basic safety and health requirements of the EC EMC Directive (89/336/EEC, 92/31/EEC, 93/68/EEC) and EC Low Voltage Directive (73/23/EEC, 93/68/EEC) based on its design and type, as brought into circulation by us. In case of alteration of the machine, not agreed upon by us, this declaration will lose its validity.

Description of the Electrical Equipment: Thermal Printer

Model Number(s): MTP-2222 MTP-2232 MTP-2232SL

MTP-2242 MTP-2242V MTP-2283

Applicable EC Directives EC EMC Directive (89/336/EEC, 92/31/EEC, 93/68/EEC)

& Harmonized Standards: EN 55022 EN61000-4-2

EN 61000-4-3 EN 61000-4-4

EN 61000-4-5 EN 61000-4-6

EN 61000-4-8 EN 61000-4-11

EC Low Voltage Directive (73/23/EEC, 93/68/EEC)

EN 60950

Year in which CE Marking was affixed: 2000

Authorized Signature/Date: Eddie Lee / Dec. 18, 2000

Title of Signatory: Director, Engineering

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