CLOCK RATES

Signal	Switch Pos.	Frequency	Baud Rate
SYS CLK	1	633.6 kHz	39.6K
	2	1.76 kHz	110
	3	153.0 kHz	9600
	4	28.8 kHz	1800
	5	76.8 kHz	4800
CLK 1	1	1.70 kHz	110
	2	2.4 kHz	150
	3	38.4 kHz	2400
	4	9.6 kHz	600
	5	19.2 kHz	1200
CLK 2	1	4.8 kHz	300
	2	153.6 kHz	9600
	3	76.8 kHz	4800
	4	1.76 kHz	110
	5	100 ms	–
CLK 3	1	28.8 kHz	1800
	2	57.0 kHz	3600
	3	19.2 kHz	1200
	4	100 ms	–
	5	1 second	–

CONTROL CHARACTER CONVERSION CHART

Octal Code	PDM70 ASCII Mnemonic	TTY Keyboard
001	SOH	CTRL A
002	STX	CTRL B
003	ETX	CTRL C
004	EOT	CTRL D
017	SI	CTRL O
021	DC1	CTRL Q
022	DC2	CTRL R
023	DC3	CTRL S
024	DC4	CTRL T
026	SYN	CTRL V

MODIFIED ASCII CODE

b_7 b_6 b_5 / B_4 B_3 B_2 B_1	0_0	0_1	1_0	1_1	2_0	2_1	3_0	3_1
0 0 0 0	0	NUL	DLE	SP	0	@	P	`	p
0 0 0 1	1	SOH	DC1	!	1	A	Q	a	q
0 0 1 0	2	STX	DC2	"	2	B	R	b	r
0 0 1 1	3	ETX	DC3	#	3	C	S	c	s
0 1 0 0	4	EOT	DC4	$	4	D	T	d	t
0 1 0 1	5	ENQ	NAK	%	5	E	U	e	u
0 1 1 0	6	ACK	SYN	&	6	F	V	f	v
0 1 1 1	7	BEL	ETB	'	7	G	W	g	w
1 0 0 0	8	BS	CAN	(	8	H	X	h	x
1 0 0 1	9	HT	EM	)	9	I	Y	i	y
1 0 1 0	10	LF	SUB	*	:	J	Z	j	z
1 0 1 1	11	VT	ESC	+	;	K	[	k	{
1 1 0 0	12	FF	F S	,	<	L	~	l	|
1 1 0 1	13	CR	GS	-	=	M	]	m	}
1 1 1 0	14	SO	RS	.	>	N	^	n	~
1 1 1 1	15	SI	US	/	?	O	_	o	DEL

PDM70–8A, 8B Display Character Set

ENQ–Enquiry
ACK–Acknowledge
BEL–Bell
BS–Back space
HT–Horizontal tab
NUL–Null
SOH–Start of heading
STX–Start of text
ETX–End of text
EOT–End of transmission
ETB–End of transmission block
CAN–Cancel
EM–End of media
SUB–Substitute
ESC–Escape
SI–Shift In
DLE–Data link escape
DC1 DC4–Device controls
NAK–Negative Acknowledge
SYN–Synchronize
FS–File Separator
GS–Group Separator
RS–Record Separator
US–Unit Separator
LF–Line Feed
VT–Vertical Tab
FF–Form Feed
CR–Carriage Return
SO–Shift Out

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digital

PDM70

programmable data mover

pocket reference

COMMANDS

Name	Octal Code	Description	TTY Keyboard
GENERAL ADDRESS COMMANDS			
DC1	021	Alert source for address	CTRL Q
DC2	022	Alert destination for address	CTRL R
PROGRAMMING COMMANDS			
STX	002	Enter programming mode	CTRL B
ETX	003	Leave programming mode	CTRL C
DATA TRANSFER COMMANDS			
DC3	~~023~~ 023	Initiate data transfer	CTRL S
SI	017	Transfer literals	CTRL O
EOT	004	End data transfer	CTRL D
MISCELLANEOUS			
DC4	024	Single program pass operation	CTRL T
SOH	001	Source mode command	CTRL A
SYN	026	Time delay command	CTRL V

GENERAL PROGRAMMING PROTOCOL

Operation	Program
d ← (s)	DC1 a DC2 b DC3
$d_1 d_2 \ldots d_n$ ← (s)	DC1 a DC2 $b_1 b_2 \ldots b_n$ DC3
d ← (s) m	DC1 a SOH m DC2 b DC3
d ← L + (s)	DC1 a DC2 b SI L DC3
Δtd ← (s)	DC1 a DC2 b SYN t DC3
* d ← (s)	DC4 DC1 a DC2 b DC3

At programming time, STX starts programming sequence and ETX follows last program character to end programming sequence.

LEGEND

a = Source address
b = Destination address
s = Source module
d = Destination module
m = Source mode
t = Time delay
L = Literal
( ) Contents of
← Gets
* Single program pass

PDM70 CONFIGURATIONS

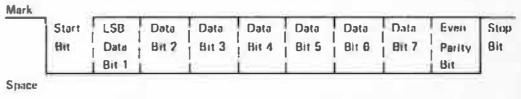
PDM70-AA	115 V operation, basic box with keyboard and clock (can accept up to 7 I/O options)
-AB	230 V operation PDM70-AA
PDM70-BA	115 V operation, basic box with keyboard, display and clock (can accept up to 7 I/O options)
-BB	230 V operation PDM70-BA
PDM70-CA	115 V operation, basic box with clock and plain front bezel (can accept up to 8 I/O options)
-CB	230 V operation PDM70-CA
CONTROL OPTIONS	
PDM70-P	Programmable bus control
PDM70-N	PROM read in for the PDM70-P
PDM70-R	20 mA bit serial bus interface
I/O OPTIONS	
SOURCE OPTIONS	
PDM70-D	32 Bit (8 BCD Digit) Digital Input
PDM70-F	4 Channel Differential Analog Input
DESTINATION OPTIONS	
PDM70-E	32 Bit (8 BCD Digit) Digital Output
PDM70-H	2 Channel Analog Output
SOURCE/DESTINATION OPTIONS	
PDM70-J	Bit Serial Input/Output
PDM70-M	8 Bit Parallel Input/Output

ACCESSORIES FOR THE PDM70

- Chassis tracks for rack mounting DEC P/N 12-09154
- Super cover DEC P/N 74-10986
- Spare I/O connectors DEC P/N 12-11374

GENERAL SERIAL WORD FORMAT

7-bit, even parity with one start bit and one stop bit.



DATA RESPONSE FROM PDM70 CONFIGURATIONS

PDM70-AA, AB, BA, BB — Transmit data from keyboard until EOT

DATA RESPONSE FROM POM70 SOURCE OPTIONS

Option	Mode	*Response
POM70-F	0	Transmit Chan 0 — INTERNAL SYNC
	1	Transmit Chan 1 — INTERNAL SYNC
	2	Transmit Chan 2 — INTERNAL SYNC
	3	Transmit Chan 3 — INTERNAL SYNC
	4	Transmit Chan 0 — EXTERNAL SYNC
	5	Transmit Chan 1 — EXTERNAL SYNC
	6	Transmit Chan 2 — EXTERNAL SYNC
	7	Transmit Chan 3 — EXTERNAL SYNC
	8	Transmit all 4 Channels internal sync
	<	Transmit all 4 Channels external sync
POM70-D	0	Transmit address, mode and 8 BCD digits on internal SYNC
	1	**Transmit address, mode and 8 BCD digits on external SYNC
	2	Transmit 8 BCD digits on internal SYNC
	3	**Transmit 8 BCD digits on external SYNC
		**If external SYNC is not present when option is addressed an "EOT" is automatically issued and module goes off line
POM70-J (Source)	0	If data present, transmit data until EOT
		If no data present, generate EOT and go off line
	1	Wait for data and transmit until EOT
POM70-M (Source)	0	If data present, transmit data until EOT
		If no data present, generate EOT
	1	Wait for data and transmit until EOT

*All transmissions terminated with EOT

Example of single channel message response (PDM70-F)

1. Module Address (0–9)
2. Channel
3. Gain Code (L,M,H or E)
4. Sign (±)
5. Data (0–1)
6. Data (0–9)
7. Data (0–9)
8. Data (0–9)
9. EOT

DATA FORMAT FOR PDM70 CONFIGURATIONS

PDM70-BA, BB — Receive data until EOT. The character LF (Line feed) clears the display.

DATA FORMATS FOR PDM70 DEST. OPTIONS

Option	Mode	Required Format
POM70-H	1	Mode character (1) x Data (0–9) MSD x Data (0–9) x Data (0–9) LSD EOT
	2	Mode character (2) y Data (0–9) MSD y Data (0–9) y Data (0–9) LSD EOT
	3	Mode character (3) x Data (0–9) MSD x Data (0–9) x Data (0–9) LSD y Data (0–9) MSD y Data (0–9) y Data (0–9) LSD EOT
	8	*Mode character (8) EOT
	9	*Mode character (8) EOT *Mode character 8 and 9 set and reset a flip-flop which is presented as a digital output
POM70-E	N/A	From 1 to 8 BCD Digits Terminated with EOT Example: two digits — Data (0–9) MSD; Data (0–9) LSD; EOT 8 digits — Data (0–9) MSD; Data (0–9); Data (0–9); Data (0–9); Data (0–9); Data (0–9); Data (0–9); Data (0–9) LSD; EOT
POM70-J (Dest)	N/A	Receive data until EOT
PDM70-M (Dest)	N/A	Receive data until EOT