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Part #: 07M1206P-A

MODEM ELIMINATOR, X.21

1206P
(CTS ME-X.21)

INSTALLATION AND OPERATIONS MANUAL

An ISO-9001 Certified Company

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EMISSION REQUIREMENTS

FCC CLASS A

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expence.

CANADIAN EMISSIONS

This digital apparatus does not exceed the Class A limits for noise emmissions from a digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits redioelectriques depassant les limites applicables aux appareils numeriques de la Class A prescites dans le Reglement sur le brouillage redioelectrique edicte par le ministere des Communications du Canada.

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CHAPTER 1 - OPERATION

The 1206P (CTS ME-X.21) is a cost effective solution for interconnection of X.21 terminal devices located in proximity of each other. The use of two modems is eliminated with a resulting cost savings to the user. The 1206P (CTS ME-X.21) complies with the CCITT V.11 balanced interface specification. Two 15 pin DB-15 connectors are provided to interface to the X.21 terminals.

Clocking

Clocking at rates up to 768Kbps with the low speed version and up to 2.048Mbps with High Speed Option are provided by the internal baud rate generator. The generator will provide clocks for both terminal and insure the data is synchronized with the S Clock in both directions.

Delaying INDICATE

Control (C) is looped back to Indicate (I) on each Port. To allow terminals requiring I delay to function properly, selectable delays of Constant, 0mS, 8mS and 50mS of C to I delay is provided. Each Port is individually configured for I delay.

Power

110 or 220 Volt operation is provided by a convenient switch located on the rear panel of the 1206P (CTS ME-X.21). Simply install the proper fuses (110VAC - .16ASB, 250V or 220VAC - .8ASB, 250V) and power plug for the country of use and select the proper line voltage and the unit is ready for operation.

Approvals

Safety approvals for UL, CSA & TÜV have been granted allowing the Modem Eliminator to be used virtually anywhere in the world. FCC Part 15 class A emissions approvals insure the Modem Eliminator will not interfere with any of the other equipment in your data center.

CE NOTICE: The CE symbol on your Patton Electronics equipment indicates that it is in compliance with the Electromagnetic Compatibility (EMC) directive and the Low Voltage Directive (LVD) of the Union European (EU). A Certificate of Compliance is available by contacting Technical Support.

Available Options

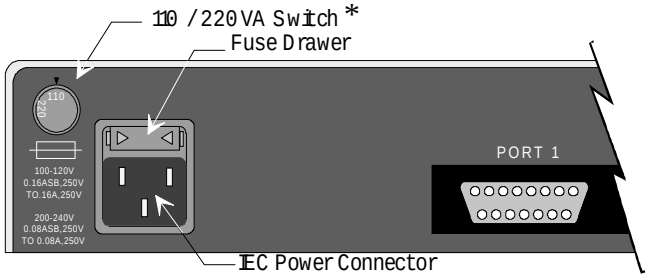
1206P (CTS ME-X.21) is available in both stand-alone subset or rack-mountable versions (1206PRC). Various configuration of the interface are also available from the factory. The 1206PRC fits into the Model 1010R16 16 Card Rack Assembly.

Caution, Disconnect the POWER Before Removing The Cover
Vorsicht, Befor Deckung Abnehmen Mach Strom Zu.

CHAPTER 2 - SETUP AND INSTALLATION

Power Connection

Before connecting the 1206P (CTS ME-X.21) to a AC power source the top cover must be installed and secured with the supplied #8-32 screws. The unit is supplied with a 110/220VA voltage switch, turn the switch with a coin or screw driver to the appropriate voltage for your country. EXAMPLE: In the United States of America; set to 110VA. The unit is supplied with a IEC power connector next to the voltage select switch, plug the power cord into the connector until it is firmly seated. You may now connect the power cord into your AC outlet.



** Switch fuse for 100-120V (.16ASB, 250V) or 200-240V (.8ASB, 250V) as noted on rear of unit.*

Factory Configuration Switch Settings

The 1206P (CTS ME-X.21) is configured prior to shipment with the switches set to the following default positions:

Switch 1 - 2, 3, 5 and 6 to **OFF**, 1 and 4 to **ON**.

Baud Rate = 64Kbps

Switch 2 - 1, 3, 4 and 6 to **OFF**, 2, and 5 to **ON**.

Port 1 IND Delay = 0
Port 2 IND Delay = 0

JP1 - JP3 always connected
JP4 - Open

HS Option

JP7 - Open
JP8 - Open
JP9 - Open
JP10 - Open

If the system application requires one of more of the default settings to be changed, it will be necessary to remove the top cover of the enclosure to access and change the DIP switches or Jumpers located on the printed circuit board.

Disassembly

Remove the top cover by unscrewing the phillips head screws located on the left and right sides of the 1206P (CTS ME-X.21). The configuration switches and Jumpers are located on the PCB as indicated on the strapping guide in the Appendix of this manual. After the switch selection activity is completed, ***re-install the top cover BEFORE connecting to an AC power source.***

Installation

Select an appropriate location accessible to and within six feet of an AC power outlet. The outlet must have a ground pin receptacle for product warranty. *"Straight Through"* shielded cables, terminated in male X.21 (DB-15) connectors should be used to connect the two terminals to the 1206P (CTS ME-X.21). Set the switches and Jumpers to match the required configuration using the descriptions in this chapter and the strapping guide in the appendix.

Equipment Grounding (JP4)

JP4 provides for grounding interconnection in those systems requiring a connection between (Frame Ground) and (Signal Ground). Connect ONLY if required.

IND Delay, Port 1 (SW2-1,2)

SW2 position 1 and 2 selects C to I delay for the terminal connected to PORT 1. C (pins 3,10) from PORT 1 is looped back to I (pins 5,12) through the delay circuitry.

SW2-1	SW2-2	DELAY
ON	ON	Const
OFF	ON	0mS
ON	OFF	8mS
OFF	OFF	50mS

IND Delay, Port 2 (SW2-4,5)

SW2 position 4 and 5 selects C to I delay for the terminal connected to PORT 2. C (pins 3,10) from PORT 2 is looped back to I (pins 5,12) through the delay circuitry.

SW2-4	SW2-5	DELAY
ON	ON	Const
OFF	ON	0mS
ON	OFF	8mS
OFF	OFF	50mS

Internal Baud Rate Selection (SW1-1,2,3,4)

Selection of internal rates is provided by configuration of SW1 positions 1 through 4 and JP7 through JP10 if the High Speed Option has been installed by the factory. The following table shows the rates available:

SW1-1	SW1-2	SW1-3	SW1-4	RATE
ON	ON	ON	ON	HS Opt
OFF	ON	ON	ON	768K
ON	OFF	ON	ON	384K
OFF	OFF	ON	ON	192K
ON	ON	OFF	ON	128K
OFF	ON	OFF	ON	72K
ON	OFF	OFF	ON	64K*
OFF	OFF	OFF	ON	57.6K
ON	ON	ON	OFF	56K
OFF	ON	ON	OFF	48K
ON	OFF	ON	OFF	38.4K
OFF	OFF	ON	OFF	28.8K
ON	ON	OFF	OFF	19.2K
OFF	ON	OFF	OFF	14.4K
ON	OFF	OFF	OFF	9.6K
OFF	OFF	OFF	OFF	4.8K

High Speed Option Rates (JP7,JP8,JP9,JP10)

If the high speed option is installed the following rates can be utilized by setting SW1 positions 1 through 4 to **ON**:

JP10 Installed JP7, JP8 & JP9 Removed - 256K

JP9 Installed JP7, JP8 & JP10 Removed - 512K

JP8 Installed JP7, JP9 & JP10 Removed - 1.024M

JP7 Installed JP8, JP9 & JP10 Removed - 2.048M

Factory Test Jumper (JP1)

The factory test jumper must be installed for the Modem eliminator to properly function. Insure this jumper is installed prior to operation of the unit.

APPENDIX

Technical Specifications

Application
Interconnect two X.21 terminal type devices

Capacity
Two X.21 Sync or Async Terminals

Data Format
Data is Transparent

Data Rates
4.8K, 9.6K, 14.4K, 19.2K, 28.8K, 38.4K. 48K, 56K, 57.6K, 64K, 72K, 128K, 192K, 384K & 768Kbps (256K, 512K, 1024K & 2048K with High Speed Option)

Timing
Internal Baud Rate Generator

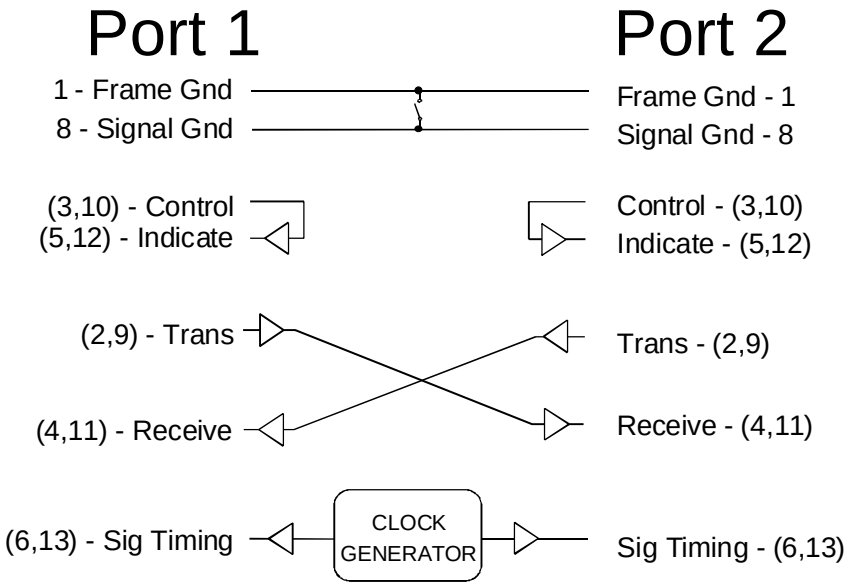
Front Panel
Indicators: ... Power, T, R, C, I, S

Channel Interface
Two CCITT X.21(V.11) female connectors (DB-15)

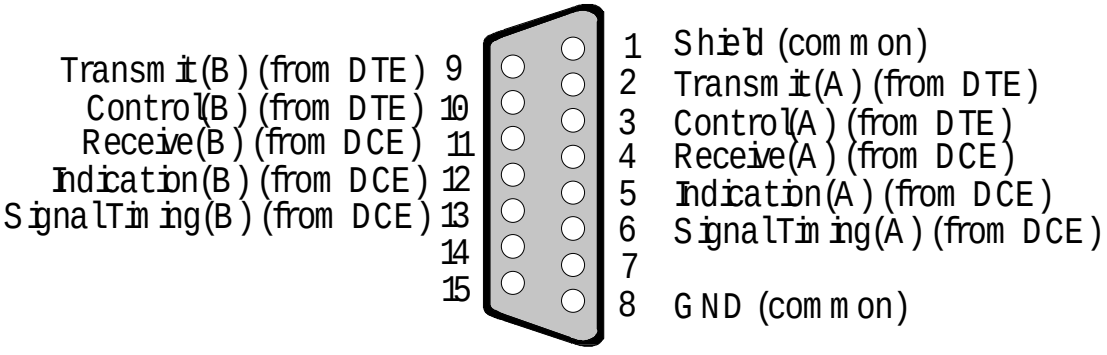
Power Source
100-120/200-240VAC, 50 to 60Hz, 0.16/0.08A switchable

Environmental
Oper Temp: ... 32° to 122°F (0° to 50°C)
Rel Humidity: .. 5 to 90% non-condensing
Altitude: ..... 0 to 10,000 feet

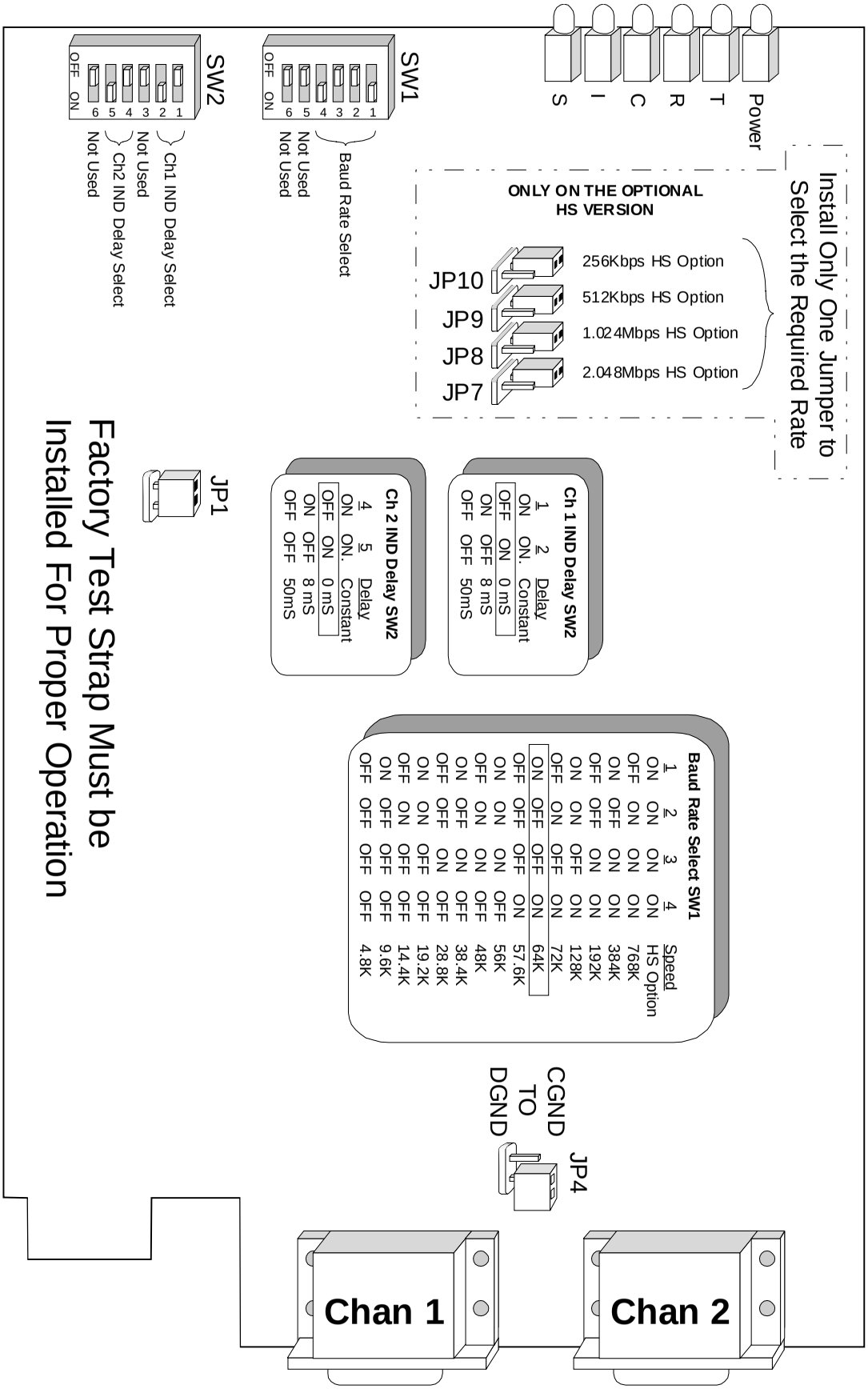
Dimensions
Height: ..... 1.75 inches (4.44 cm)
Width: ..... 8.90 inches (22.60 cm)
Length: ..... 10.00 inches (25.40 cm)



Signal Flow Diagram



DB-15 Connector Pins Used


Power
T
R
C
I
S
SW1
OFF ON
6 5 4 3 2 1
Not Used
Not Used
Baud Rate Select
SW2
OFF ON
6 5 4 3 2 1
Not Used
Ch2 IND Delay Select
Not Used
Ch1 IND Delay Select
Install Only One Jumper to Select the Required Rate
ONLY ON THE OPTIONAL HS VERSION
JP10
JP9
JP8
JP7
256Kbps HS Option
512Kbps HS Option
1.024Mbps HS Option
2.048Mbps HS Option
JP1
Factory Test Strap Must be Installed For Proper Operation
Ch 1 IND Delay SW2
1 2 Delay
ON ON. Constant
OFF ON 0 mS
ON OFF 8 mS
OFF OFF 50mS
Ch 2 IND Delay SW2
4 5 Delay
ON ON. Constant
OFF ON 0 mS
ON OFF 8 mS
OFF OFF 50mS
Baud Rate Select SW1
1 2 3 4 Speed
ON ON ON ON HS Option
OFF ON ON ON 768K
ON OFF ON ON 384K
OFF OFF ON ON 192K
ON ON OFF ON 128K
OFF ON OFF ON 72K
ON OFF OFF ON 64K
OFF OFF OFF ON 57.6K
ON ON ON OFF 56K
OFF ON ON OFF 48K
ON OFF ON OFF 38.4K
OFF OFF ON OFF 28.8K
ON ON OFF OFF 19.2K
OFF ON OFF OFF 14.4K
ON OFF OFF OFF 9.6K
OFF OFF OFF OFF 4.8K
CGND TO DGND
JP4
Chan 1
Chan 2