

ELASTIC
ASYNCHRONOUS TO
SYNCHRONOUS
INTERFACE

2012

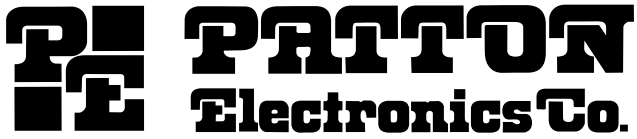
(CTS EASI-2C)

INSTALLATION AND **O**PERATIONS **M**ANUAL

September 10, 2000



An ISO-9001
Certified Company



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Proprietary Notice

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Warranty Notice

WARRANTIES: Patton Electronics Co. (hereafter referred to as Patton) warrants that its equipment is free from any defects in materials and workmanship. The warranty period shall be two years from the date of shipment of equipment. Patton's sole obligation under its warranty is limited to the repair or replacement of the defective equipment, provided it is returned to Patton, transportation prepaid, within a reasonable period. This warranty will not extend to equipment subjected to accident, misuse, alterations or repair not made by Patton or authorized by Patton in writing.

Publication Notice

This manual has been compiled and checked for accuracy. The information in this manual does not constitute a warranty of performance. Patton reserves the right to revise this publication and make changes from time to time in the content thereof. Patton assumes no liability for losses incurred as a result of out-of-date or incorrect information contained in this manual.

Radio and TV Interference

The Patton MSDs generate and use radio frequency energy, and if not installed and used properly—that is, in strict accordance with the manufacturer's instructions—may cause interference to radio and television reception. The Patton MSDs have been tested and found to comply with the limits for Class A computing devices in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection from such interference in a commercial installation. However, there is no guarantee that interference will not occur in a particular installation. If the Patton MSDs do cause interference to radio or television reception, which can be determined by disconnecting the cables, the user is encouraged to try to correct the interference by one or more of the following measures: moving the computing equipment away from the receiver, re-orienting the receiving antenna, and/or plugging the receiving equipment into a different AC outlet (such that the computing equipment and receiver are on different branches).

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 European Union (EU). A Certificate of Compliance is available by contacting Technical Support.

Service

All warranty and non-warranty repairs must be returned freight prepaid and insured to Patton Electronics. All returns must have a Return Materials Authorization number on the outside of the shipping container. This number may be obtained from Patton Electronics Technical Support at:

tel: (301) 975-1007;

email: support@patton.com;

or, www: <http://www.patton.com>.

NOTE: Packages received without an RMA number will not be accepted.

Patton Electronics' technical staff is also available to answer any questions that might arise concerning the installation or use of your Patton MSDs. Technical Support hours: 8AM to 5PM EST, Monday through Friday.

Emissions 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 expense.

Canadian Emissions

This digital apparatus does not exceed the Class A limits for noise emissions 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 radioelectriques depassant les limites applicables aux appareils numeriques de la Class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

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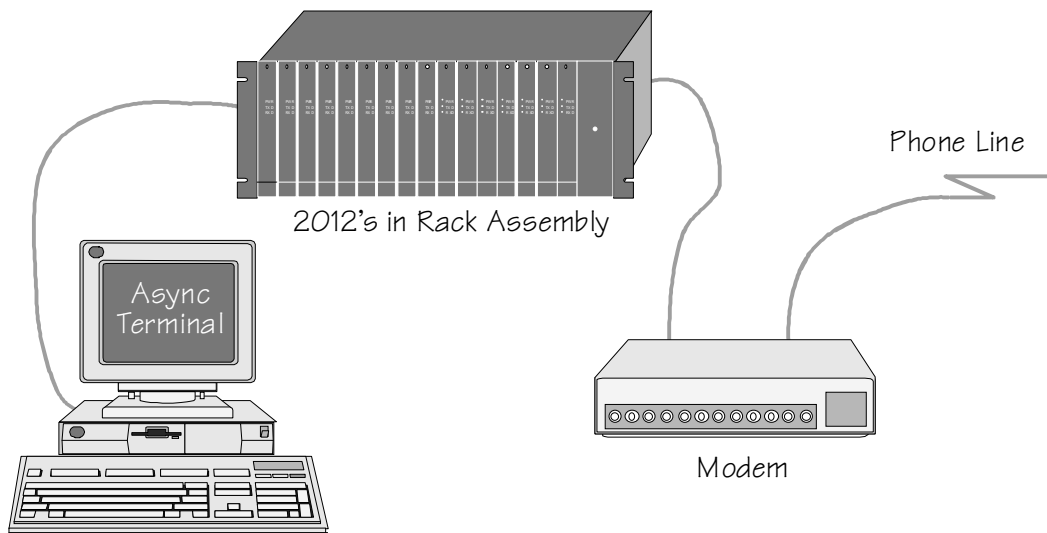
CHAPTER 1 - OPERATION

The Patton 2012 (CTS EASI-2C) is a Full Duplex RS-232 **Elastic Asynchronous** to **Synchronous Interface** adapter using RS-232-C pin-outs on a DB-25 Connector. This device will take asynchronous data with 5 to 8 data elements and a start, stop and parity bit and synchronize this data to the clock provided on the synchronous port. Synchronization is accomplished by buffering the async data in a 2048 byte FIFO to compensate for the sync clocking rate being slower than the incoming async data. When the async data is slower than the sync clock rate, additional stop bits are added to the async data to compensate. Speed selection is via a DIP switch. Clocking rates of 112.5bps through 19,200bps are available. Selection of the number of data bits is also selectable and is set with the options switch, located safely inside the housing.

The 2012 (CTS EASI-2C) is designed to operate as a single sided device. This allows operation for isochronous (clocked asynchronous) and asynchronous devices to communicate through synchronous modems.

A standard DB-25 female connector is provided on both the asynchronous and synchronous ports.

The 2012 (CTS EASI-2C) is powered by an internal linear power supply. Safety approvals have been granted for UL, CSA & TÜV. FCC class A approval has also been passed.



Typical Application

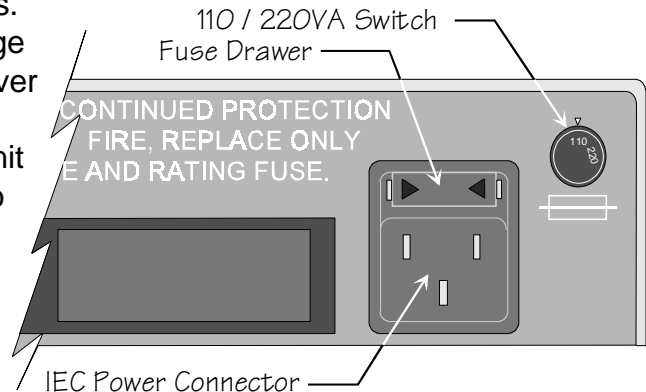


Caution, Disconnect the POWER Before Removing The Cover
 Vorsicht, Befor Deckung Abnehmen Mach Strom Zu.

CHAPTER 2 - SETUP AND INSTALLATION

Power Connection

Before connecting the 2012 (CTS EASI-2C) to an AC power source the top cover must be installed and secured with the supplied screws. The unit is supplied with a 110/220VAC voltage switch, turn the switch with a coin or screw driver to the appropriate voltage for your country. **EXAMPLE:** In the U.S; set to 110VAC. 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.



Factory Configuration

The 2012 (CTS EASI-2C) is configured prior to shipment with the switches and jumpers in the following default positions:

SW1 - 1 & 2 **OFF** (8 bit data)
 3 **OFF** (Even Parity)
 4 **OFF** (Parity Disabled)
 5 **OFF** (Don't Pass Break Key)
 6 **ON** (CTS Delay Disabled)
 7, 8,9 &10 **ON** (19,200 bps)

Jumper JP1 - **OUT** (Chassis Ground and Signal Ground Not connected)

Jumper JP2 - **IN** (Factory Test Jumper Must be in for unit operation)

Installation

The 2012 (CTS EASI-2C) is designed to be connected between a synchronous MODEM and an asynchronous terminal. The connector marked J3 should be plugged into the asynchronous terminal and the connector marked J2 should be plugged into the MODEM.

Element Length Selection

Switch 1 positions 1 & 2 control the asynchronous element length. To select 5 bit operation, set SW1- 1 and SW1-2 to **ON**. This will allow operation with one start bit, 5 data bits and one stop bit. For 6 bit operation, set SW1-1 to **ON** and SW1-2 to **OFF**. This will allow operation with one start bit, 6 data bits and one stop bit. For 7 bit operation, set SW1-1 to **OFF** and SW1-2 to **ON**. This will allow operation with one start bit, 7 data bits and one stop bit. For 8 bit operation, set SW1-1 to **OFF** and SW1-2 to **OFF**. This will allow operation with one start bit, 8 data bits and one stop bit or one start bit, 7 data bits one parity bit and one stop bit. For 8 bit data with a parity bit see the PARITY SELECTION section.

Pass Break Key

SW1-5 controls the break key operation. Set SW1-5 to **ON** if it is required to pass a break key from the terminal through the 2012 (CTS EASI-2C) to the terminal on the remote side. Set SW1-5 to **OFF** if the break key is to be blocked to the remote side.

Equipment Grounding

JP1 provides grounding interconnection in those systems requiring a connection between the DB-25 Pin 1 (Frame Ground) and Pin 7 (Signal Ground). Install JP1 if connection from frame ground to signal ground is required. Remove JP1 if connection from frame ground and signal ground is not required.

Factory Test JP2

Do Not remove JP2. JP2 is required for Factory testing of the 2012 (CTS EASI-2C) and **MUST** be installed for operation of the unit.

Baud Rate Selection

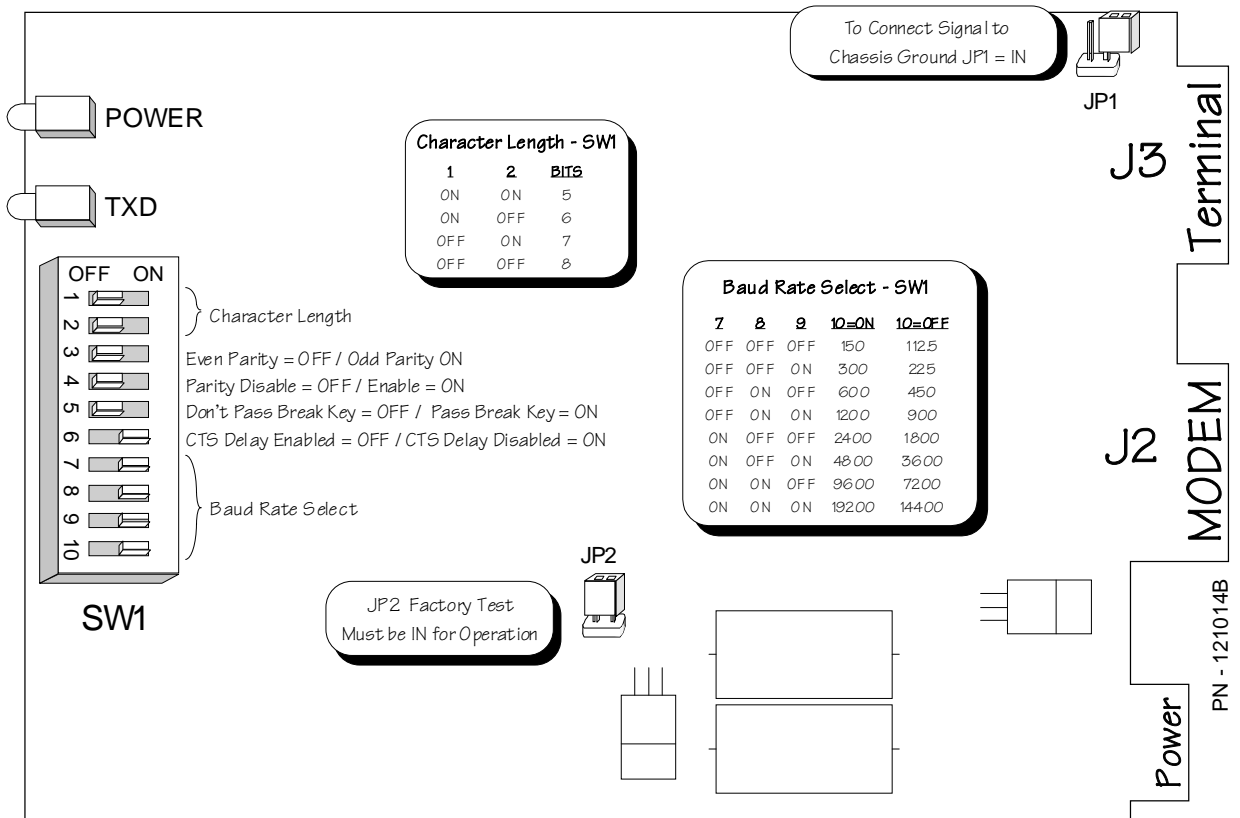
SW1 positions 7 through 10 select the Baud Rate. See the switch selection diagram, on the following page for switch settings and available rates.

Parity Selection

This option allows 8 bit data with parity to be used with the 2012. Selection of this option will append a parity bit on the out-going data and look for a parity bit on the in-coming data. This bit will be stripped and recreated by the EASI and will not be stored in the buffer. When a character is received, the parity bit will be checked and discarded prior to buffering the 8 bits of data. When the data is transferred to the synchronous link the selected parity will be recalculated and appended to the 8 bits of data. To disable this option, set SW1-4 to **OFF**, to enable ninth bit parity set SW1-4 to **ON**. Even parity is selected by setting SW1-3 to **OFF**, Odd parity is selected by setting SW1-3 **ON**. For Parity on 7 or less data bits, see the ELEMENT LENGTH SELECTION section.

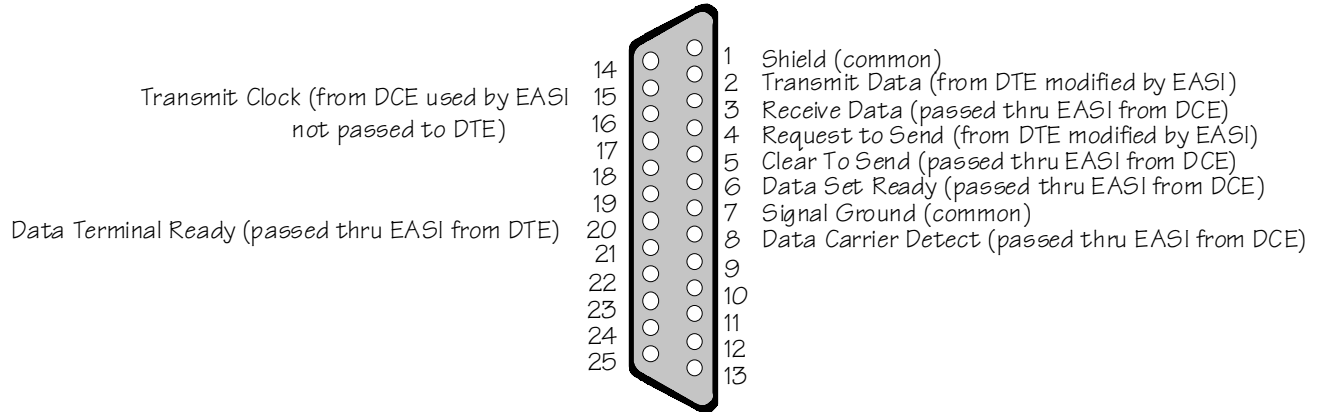
CTS Delay

SW1-6 selects CTS Delay. To select 8 mS of Delay set SW1-6 to **OFF**. To select no delay set SW1-6 to **ON**.

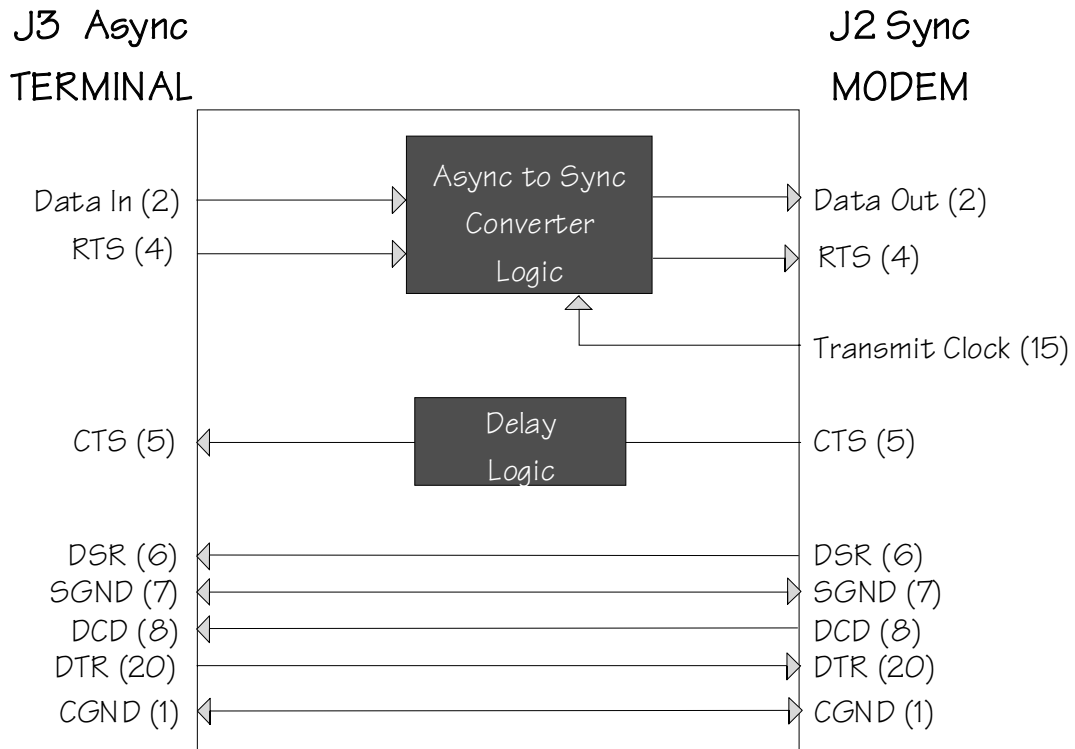




APPENDIX



DB-25 (V.24) Pin Out Chart



Block Diagram

TECHNICAL SPECIFICATIONS

Applications

RS-232 Sync to Async Conversion

Capacity

One Sync RS-232 Modem

One Async RS-232 Terminal

Data Format

Data Coding: ... Asynchronous Standard 5-
9 Data Bits

Data Rates

112.5bps to 19,200bps

Data Interface

EIA RS-232

RS-232 Physical Interface

Two Female DB-25 Connector

Enclosure

Aluminium

Power Requirements

110 or 220 Volts AC

Approvals

MET, c-MET, CE

Environmental

Operating Temp: 32° to 122°F (0° to
50°C)

Relative Humidity: Up to 90% non-
condensing

Altitude: 0 to 10,000 feet

Dimensions

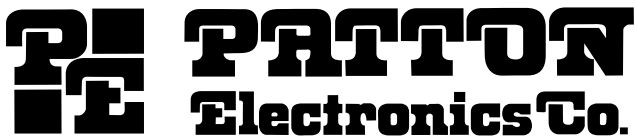
Height: 1.75 inches (4.44 cm)

Width: 8.90 inches (22.60 cm)

Length: 10.00 inches (25.40 cm)

Weight

2.50 lbs (1.135 Kg)



7622 Rickenbacker Drive
Gaithersburg, MD 20879

Sales: 301 975-1000 Support: 301 975-1007
Web Address: www.patton.com