

# USER MANUAL

---

## MODEL 3042

(CTS TDM-V.24)

### Time Division Multiplexor, RS-232



---

Part #: 07M3042-A  
Doc #: 119001UA  
Revised 3/26/01

SALES OFFICE  
(301) 975-1000  
TECHNICAL SUPPORT  
(301) 975-1007

## 1.0 WARRANTY INFORMATION

Thank you for your purchase of this Patton Electronics product. This product has been thoroughly inspected and tested and is warranted for One Year parts and labor. If any questions or problems arise during installation or use of this product, please do not hesitate to contact Patton Electronics Technical Services at (301) 975-1007.

### 1.1 WARRANTY STATEMENT

**Patton Electronics** warrants all Model 3042 components to be free from defects, and will—at our option—repair or replace the product should it fail within one year from the first date of shipment.

This warranty is limited to defects in workmanship or materials, and does not cover customer damage, abuse or unauthorized modification. This product contains no user serviceable parts; therefore the user shall not attempt to modify the unit in any way. If this product fails or does not perform as warranted, your sole recourse shall be repair or replacement as described above. Under no condition shall **Patton Electronics** be liable for any damages incurred by the use of this product. These damages include, but are not limited to, the following: lost profits, lost savings and incidental or consequential damages arising from the use of or inability to use this product. **Patton Electronics** specifically disclaims all other warranties, expressed or implied, and the installation or use of this product shall be deemed an acceptance of these terms by the user. In the event the user detects intermittent or continuous product malfunction due to nearby high power transmitting radio frequency equipment, the user is strongly advised to use only data cables with an external outer shield bonded to a metal or metalized connector.

### 1.2 RADIO AND TV INTERFERENCE

The Model 3042 generates and uses 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 Model 3042 has been tested and found to comply with the limits for a Class A computing device 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 Model 3042 does cause interference to radio or television reception, which can be determined by disconnecting the RS-232 interface, 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).

### **1.3 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 Service at **(301) 975-1007**. *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 Model 3042.

Technical Service hours: **8 A.M. to 5 P.M. EST, Monday through Friday.**

## 2.0 OPERATION

The Patton 3042 (CTS TDM-V.24) is a Full Duplex, RS-232, Two Channel, Time Division Multiplexor with an independent switch selectable V.14/V.22 compliant Asynchronous to Synchronous Interface adapter on sub-channel 1. The composite channel is designed to interface directly with a high speed synchronous MODEM via a straight through cable. The unit operates by sequentially selecting a bit of data from each sub-channel then multiplexing it onto the composite channel. Each sub-channel will operate at 1/2 of the composite channel rate. Standard DB-25 female connectors are provided on all sub-channels as well as the composite channel.

Power is provided by an external transformer connected through J1 (Power) on the rear of the unit. This external power transformer has UL and CSA approvals.

One LED indicator on the front of the unit indicates power is applied to the unit and should be on at all times. The other indication on the front labeled SYNC indicates the two 3042 (CTS TDM-V.24) units are in sysync with each other and data transmission is possible.

Three DB-25 Female Connectors are provided on the rear panel for connection to a MODEM on the composite port (J2) and two Terminals. Channel 1 (J3) can be optioned for synchronous or asynchronous operation. Channel 2 (J4) can be operated only as a synchronous channel. Channel 1 must be optioned the same on both ends of the circuit for the multiplexor to function properly.

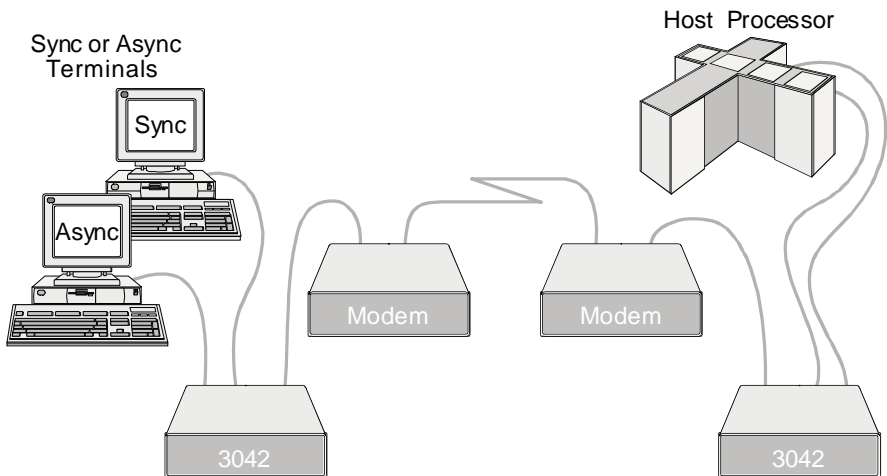


Figure 1. Typical Application

## **3.0 SETUP AND INSTALLATION**

### **3.1 INSTALLATION**

Set switches to match the required configurations based on the diagrams below. The cabling between each device and the 3042 (CTS TDM-V.24) must be terminated with male connectors. Character Length and Stop Bit reduction only apply to channel 1 when it is selected for asynchronous operation.

### **3.2 CHARACTER LENGTH**

SW1 position 1 and 2 selects the character length. The character length includes the start, stop and any parity bits. 10 bit length is 1 start bit, 8 data bits and 1 stop bit. The chart on the previous page outlines all the available character bit lengths available.

### **3.3 STOP BIT REDUCTION**

SW1 position 3 selects the percentage of stop bit reduction to occur when the sync rate is faster than the async rate. Setting SW1 position 3 to ON ON ON ON will select 25% stop bit reduction. Setting SW1 position 3 to OFF OFF OFF OFF OFF will select 12.5% stop bit reduction.

### **3.4 CHANNEL 1 SYNC / ASYNC**

SW1 position 5 selects channel one as a sync channel or async channel. This selection must be the same on both ends of the circuit for the units to operate correctly. Setting SW1 position 5 to ON ON ON ON ON will select Asynchronous operation on channel 1. Setting SW1 position 5 to OFF OFF OFF OFF OFF will select Synchronous operation on channel 1.

### **3.5 EQUIPMENT GROUNDING**

SW1, position 6 provides for grounding interconnection in those systems requiring a connection between Pin # 1 (Frame Ground) and Pin # 7 (Signal Ground).

### **3.6 FACTORY STRAPS**

SW1 position 4 is used for factory test and must be in the off position for proper operation of the unit. In addition the 3 jumpers must be installed for proper operation of the unit.

## **APPENDIX A**

### TECHNICAL SPECIFICATIONS

#### **A.1 APPLICATIONS**

RS-232 Sync or Async 2 Sub-Channel Multiplexor

#### **A.2 CAPACITY**

Two Sync or One Sync and One Async RS-232 Terminals

One Sync RS-232 MODEM

#### **A.3 DATA FORMAT**

Data Coding: Synchronous or Asynchronous

#### **A.4 DATA RATES**

Async 600bps to 19,200bps or Sync up to 19,200 with 38,400 bps composite

#### **A.5 DATA INTERFACE**

EIA RS-232-C

#### **A.6 RS-232 PHYSICAL INTERFACE**

Three Female DB-25 Connectors

#### **A.7 ENCLOSURE**

Aluminum

#### **A.8 POWER REQUIREMENTS**

Wall Mount Transformer

#### **A.9 APPROVALS**

FCC Part 15 Class A, UL/CSA

#### **A.10 ENVIRONMENTAL**

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

Relative Humidity: Up to 90%, non-condensing

Altitude: 0 to 10,000 feet

**A.11 DIMENSIONS**

Height: 2.00 inches (5.08 cm)

Width: 8.30 inches (21.08 cm)

Length: 6.10 inches (15.49 cm)

**A.12 WEIGHT**

2.25 lbs (1.02 Kg)

## APPENDIX B

### JUMPER AND SWITCH SETTINGS

