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Title:

SMX702
Synchronous Communication Multiplexer - X.21
General Information

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Keywords:

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Abstract:

This manual contains general specifications on SMX702, synchronous communication controller, as well as information on installation and testing.

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1. GENERAL DESCRIPTION 1.

The SMX702 is a binary synchroneous communication multiplexer consisting of up to 32 channels, each containing a receiver and a transmitter.

It is intended for use as interconnection media between the RC3600 computer and datex modems using the CCITT recommendation X.21 call and wait call procedures.

It is based on the SMX701 controller, which is used for V.24 synchroneous communication.

Only the interface is changed.

2. SPECIFICATIONS 2.

2.1 Performance Specifications 2.1

Maximum transmission speed is 9600 bps.

Interface circuits are CCITT recommendation X.27, which allows cable length of up to 1200 m at this transmission speed.

2.2 Electrical Specifications 2.2

Supply voltage: +5 V ±5%
Current requirement: 3.8 A (per controller, 4 channels)

2.3 Environmental Specifications 2.3

Ambient Temperature: 10-35°C
Relative Humidity: 20-80% without condensation.
Heat dissipation: 19 W

2.4 Physical Specifications 2.4

Space requirement: 1 slot in the RC3600 CHS system per 4 channels.

3. INSTALLATION 3.

3.1 Controller Installation 3.1

Installation of the SMX702 in an already delivered system:

The communication controller must be mounted in a free slot in a controller chassis. The controller does not use the DMA channel, therefore the position in the priority chain is irrelevant.

a) Remove the RC2236 PCB from the position in the card cage where the controller is to be mounted.

b) Mount the label 'SMX702-1001' on the right side and 'SMX702-1004' on the left side of the card cage to indicate the position of the controller.

c) Remove the bottom of the CHS card cage chassis by loosening the two screws on the front and pull it free on the slides.

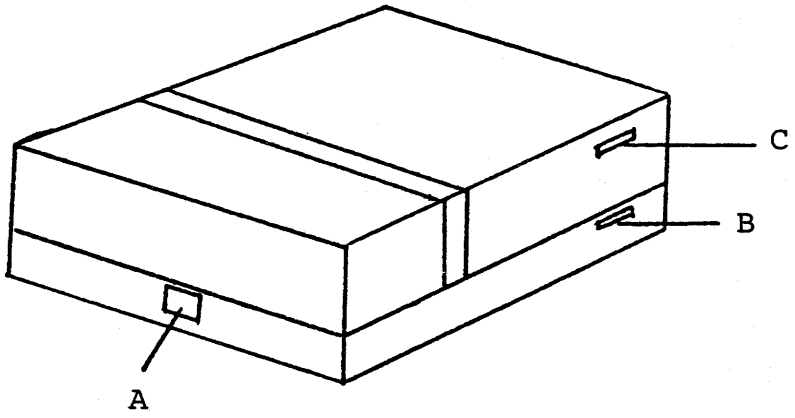
d) Mount the two CBL129 in the chassis in the following order:
   1) Mount the brackets with the 19 pin connectors at the back of the chassis (A) and connect the chassis terminal.

   2) Lead the free end of the CBL129 through the hole (B) in the chassis on both sides.

   3) Mount the controller board in the selected position.

   4) Mount the edge connectors in the selected position (C) for the controller.

e) Reenter the bottom of the chassis and fasten the screws.



3.2 Modem Connection 3.2

The modem cables are connected to the 19 pin connectors on the back of the chassis. 4 cables per controller. CBL987 (12 m) or KBL503 (40 m) can be used.

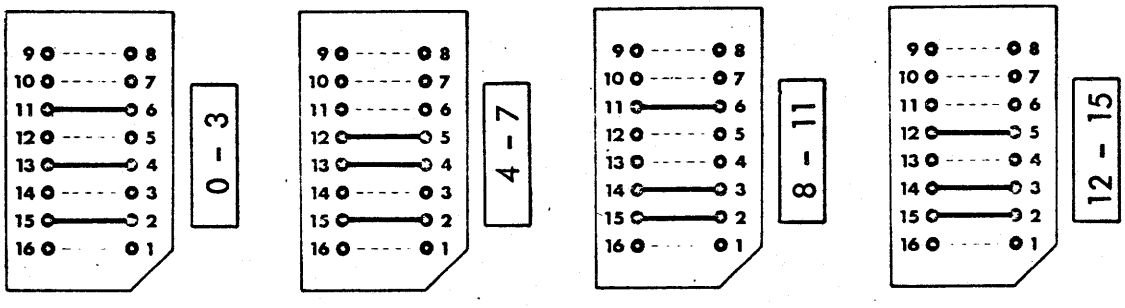
3.3 Switches and Strappings 3.3

3.3.1 Group Strapping 3.3.1

The SMX702 will normally be delivered as group 0, i.e. channel numbers 0-3.

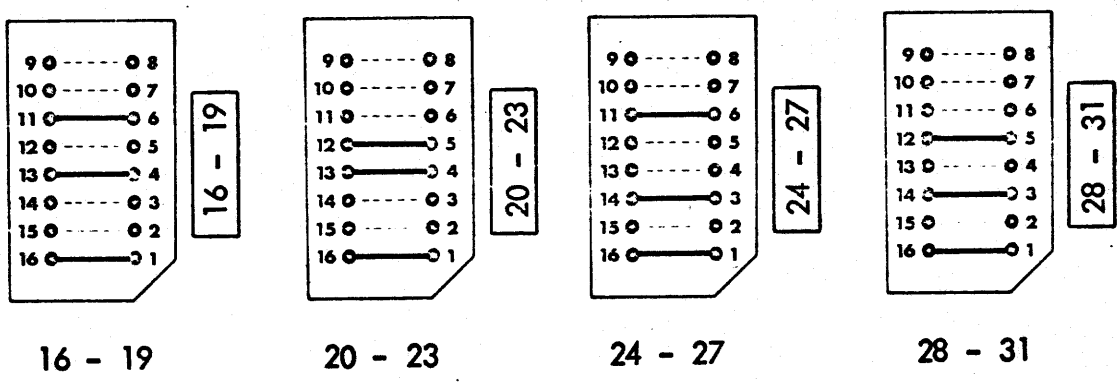
It is possible to run 8 groups to get a total number of 32 channels. This is done by solder straps in position 141.

Note: The boards have no interconnection except the I/O bus and can therefore be placed anywhere in the system.



0 - 3 4 - 7 8 - 11 12 - 15

Normal Strap



16 - 19 20 - 23 24 - 27 28 - 31

3.3.2 Clock Selection

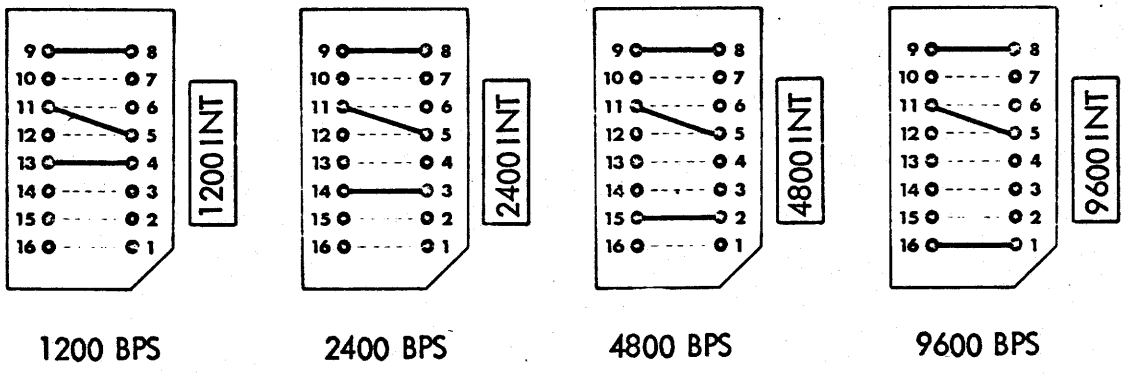
3.3.2

It is possible to get the clock to a channel receiver and transmitter either internally from a clock generator or from a modem.

Four speeds can be selected internally by solder strapping as described below.

Internal, for Test Purpose

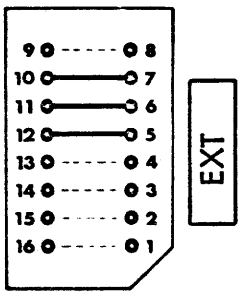
SMX702 delivers S clock



1200 BPS 2400 BPS 4800 BPS 9600 BPS

External, for Normal Use

The clock to the receiver and the transmitter is delivered from the modem.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4. CHECK OUT PROCEDURES 4.

On installation and after repair the following test must be carried out.

a) Mount the KBL502 testplug on the controller instead of CBL129. Channel 0.1 is tested when mounted at 1001 (right side) and channel 2.3 is tested when mounted at 1004 (left side).

b) Set clock strapping for internal clock.

c) Load the MUS system with SMX driver and testprogram RC36-00240 (the same as used for SMX701).

d) Start the program and check that no errors occur (calling indicator is not used on SMX702).

For diagnostic purpose the stand alone SMX701 testprogram 44RT810 can be used. As the interface on the SMX702 is different from the interface on the SMX701, the testplug KBL502 must be used. With this testplug mounted and strappings for internal clock, the error reports for the SMX701 interface signals must be translated this way:

SMX701	SMX702
transmit data	T
receive data	R
calling indicator	C
data set ready	I
carrier detect	c

The T, R, C and I are X.21 interface signals.

The KBL502 makes the following loop-back connections:

T-R and C-I.

RETURN LETTER

SMX702

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