

ADDENDUM
TO
SERIES 2073 INTERFACE CONVERTER UNIT
FOR
IOC020 FULL DUPLEX X.21 – TTL TRANSLATOR

A.1 OVERVIEW

The IOC020 is a standalone full duplex 2073 card that translates TTL signals to X.21 levels and X.21 levels into TTL signals. Basic X.21 protocol signals have also been made available.

The module accepts data and clock from the PACKETIZER module (or any other PCM source) and translates it into RS-422 level to be used in the X.21 protocol. There have been detection circuits added in case of the board and its interfaces need handshaking. The “C” and the “I” line can be set to either HIGH active or LOW active (jumper selectable).

In order to make the IOC020 more flexible both network and local timing or clock is available (jumper selectable). Pins 6 and 13, which are the timing signals can be set for network clock to be translated into TTL and sent to the DEPACKETIZER Module. Also pins 6 and 13 can be set to local timing and send the timing element out to the DCE and to the DEPACKETIZER Module.

Note: When the IOC020 is in network timing mode the Input clock can be left disconnected.

A.2 FEATURES SPECIFICATIONS

X.21 Signals:	RS-422 level
Handshaking signals:	“C” & “I”
Number of Channels:	2 TTL inputs (Data and Clock)
	2 TTL outputs (Data and Clock)

Differential Pair (X.21):

- TX (Transmit)
- RX (Receive)
- ST (Signal Timing)
- I (Indication)
- C (Control)

Bit Rate: >10Mb/s up to 50m

Timing: Both Local and Network timing (jumper selectable)

A.3 INSTALLATION

PLACEMENT

The module is designed for the 2073 chassis. Due to its standalone operation the module can also be placed in a 4xx chassis using the Adapter Board (2097). The module, when placed in a 4xx takes up three slots. In the 2073 chassis two slots are needed. The module when placed in the Adaptor Board is held in place securely.

A.4 CABLE REQUIREMENTS

There are two BNC connectors for input TTL input to the X.21 and two BNC connectors for output from the X.21. The X.21 module acting as a DTE has I/Os through a standard X.21 DA15 connector shown below.

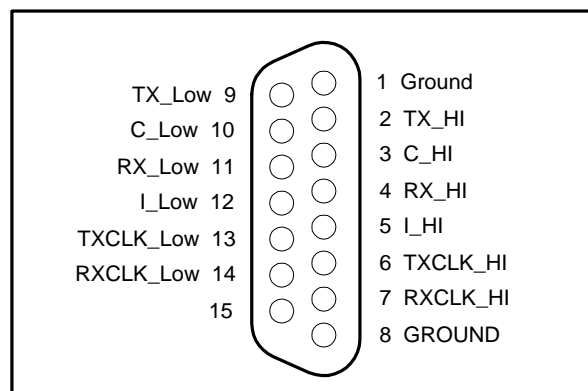


FIGURE 1

BNC Connectors are as follows:

CONNECTOR	FUNCTION
J1	PCM INPUT to X.21 (TTL)
J2	CLOCK INPUT to X.21 (TTL)
J3	PCM OUTPUT from X.21 (TTL)
J4	CLOCK OUTPUT from X.21 (TTL)

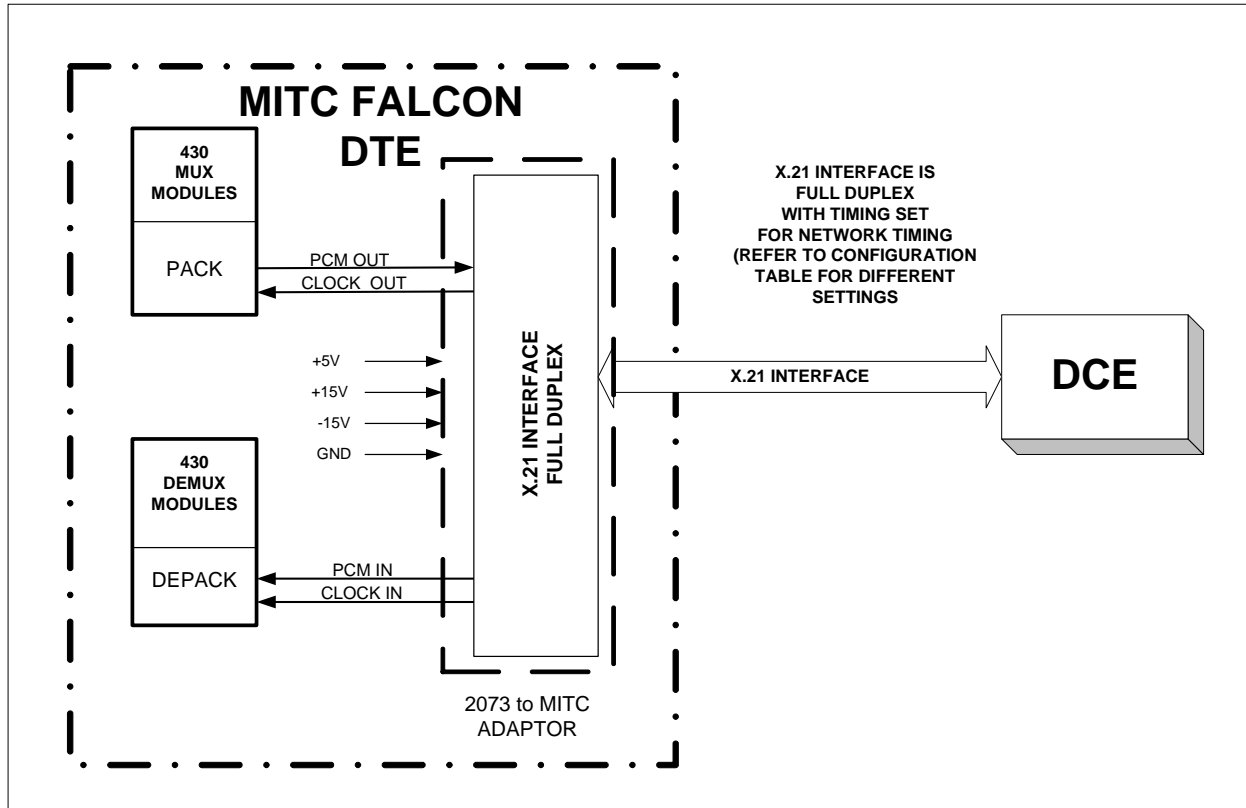
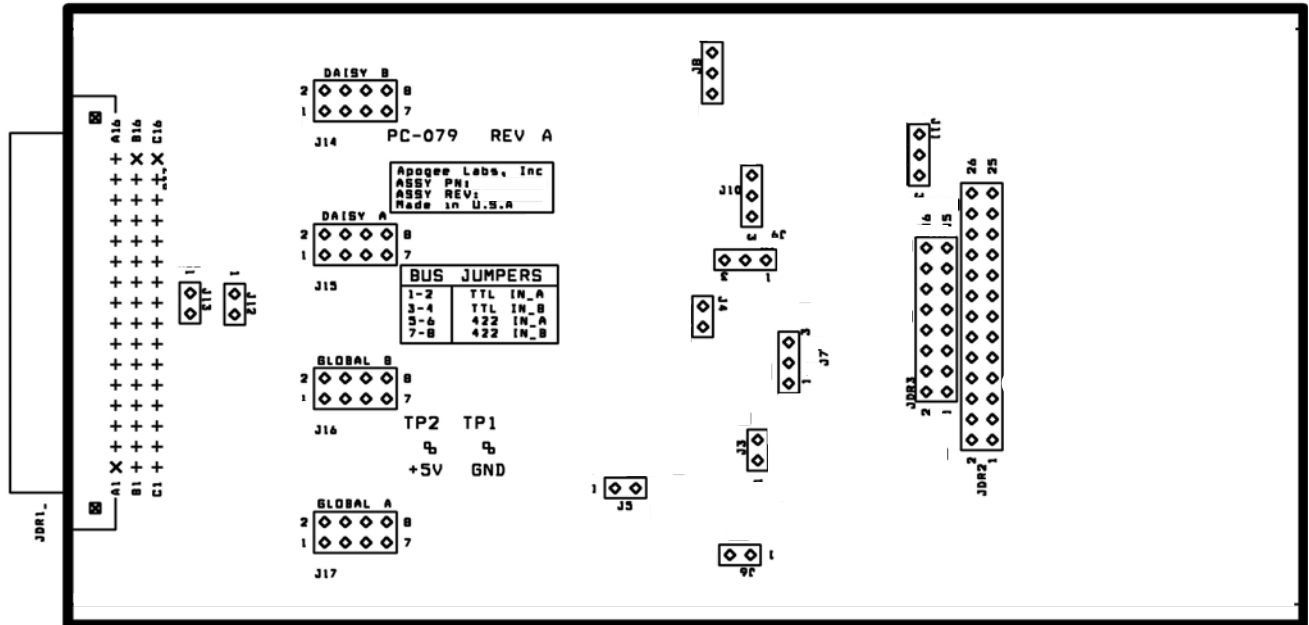


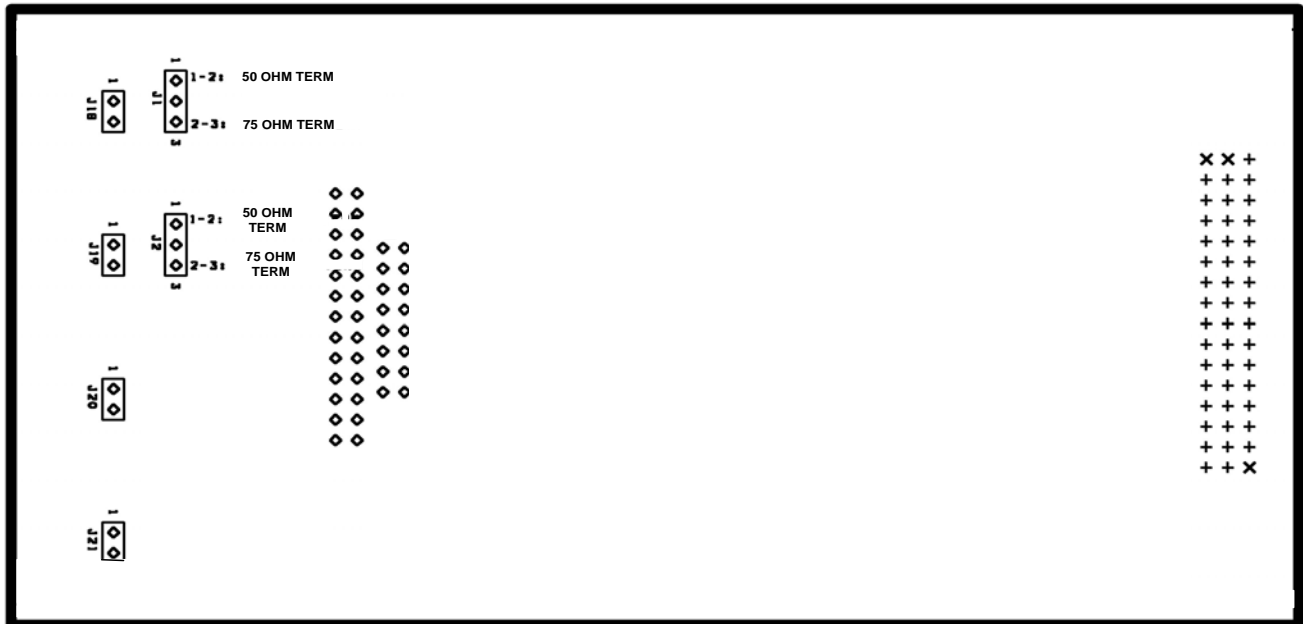
FIGURE 2

A.5 CONFIGURATION SETTINGS

X.21 BOARD FRONT VIEW



X.21 BOARD BACK VIEW



The are configurations settings are as follows:

Jumper	Assignment
J1	(1-2): Terminate TTL IN A to 50 Ω (2-3): Terminate TTL IN A to 75 Ω
J2	(1-2): Terminate TTL IN B to 50 Ω (2-3): Terminate TTL IN B to 75 Ω
J3	Bridge to invert "TTL IN A"
J4	Bridge to invert "TTL IN B"
J5	Bridge to invert "TTL OUT A"
J6	Bridge to invert "TTL OUT B"
J7	(1-2): "C OUT" Low (2-3): "C OUT" Hi
J8	(2-3)
J9	Not Used
J9	(1-2): Terminate Line to Line "X.21 DATA IN" to 120 Ω (2-3): Terminate Line to Line "X.21 DATA IN" to 75 Ω
J10	(1-2): Terminate Line to Line "X.21 CLOCK IN" to 120 Ω (2-3): Terminate Line to Line "X.21 CLOCK IN" to 75 Ω
J11	Bridge to enable Global Bus B
J12	Bridge to enable Global Bus A

The Timing of the X.21 configurations settings is as follows:

FUNCTION	FROM
Network Timing (Default)	JDR2-17 to JDR2-19 JDR2-18 to JDR2-20
Local Timing	JDR2-24 to JDR2-26 JDR2-23 to JDR2-25

A.6 DRAWINGS

Schematic: SHPC-079