

TABLE OF CONTENTS

CHAPTER 1 - INTRODUCTION	Page 1
1.1 FUNCTIONAL DESCRIPTION	Page 1
CHAPTER 2 - BASIC OPERATION	Page 2
2.1 FRONT PANEL INDICATORS	Page 2
2.2 FRONT PANEL SWITCHES	Page 2
2.3 REAR PANEL POWER CONNECTOR	Page 2
2.5 CLOCKING	Page 2
2.6 DATA INTERFACES	Page 2
2.7 DATA INTERFACE MODULE STRAPS	Page 3
2.8 DATA INTERFACE REMOVAL	Page 3
.....	
CHAPTER 3 - INSTALLATION	Page 4
3.1 VOLTAGE SELECTION	Page 4
3.2 VOLTAGE SELECTION FUSES	Page 4
3.3 POWER CONNECTION	Page 4
3.4 DEFAULT CONFIGURATION SWITCH SETTINGS	Page 5
3.5 DATA PORT CONNECTIONS	Page 5
3.6 SWITCH SETTINGS	Page 5
3.6.1 DIP SWITCHES	Page 5
.....	
4.0 - APPENDIX	Page 6
4.1 V.35 INTERFACE CHART	Page 6
5.0 - TECHNICAL SPECIFICATIONS	Page 7

OPERATIONS MANUAL

UNIVERSAL INTERFACE CONVERTER

UIC

22 May, 2000

FOR TECHNICAL SUPPORT CALL:

East Coast Datacom, Inc.
571 Haverty Court, STE N
Rockledge, FL 32955 USA
TEL: (800) 240-7948 or (321) 637-9922
FAX: (321) 637-9980
Email: info@ecdata.com

Manufactured By:

East Coast Datacom, Inc.

PT # 134000-A

SAFETY WARNING

Always observe standard safety precautions during installation, operation and maintenance of this product. To avoid the possibility of electrical shock, be sure to disconnect the power cord from the power source before you remove the IEC power fuses or perform any repairs.

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CHAPTER 1 - INTRODUCTION

1.1 FUNCTIONAL DESCRIPTION

The Universal Interface Converter(UIC) allows the user to purchase a single product to convert interfaces between any combination of RS-232, V.35, RS-422/449, X.21, RS-530, TTL and customer specific requests. The UIC is shipped with any two user specified data interfaces. Additional data interfaces are sold separately.

The individual data interfaces are available in DCE or DTE formats. Each data interface has the ability to force commonly used control signals such as DSR, DTR, Ring Indicate, Control and Indicate.

The data interfaces may be mix and matched in any combination.

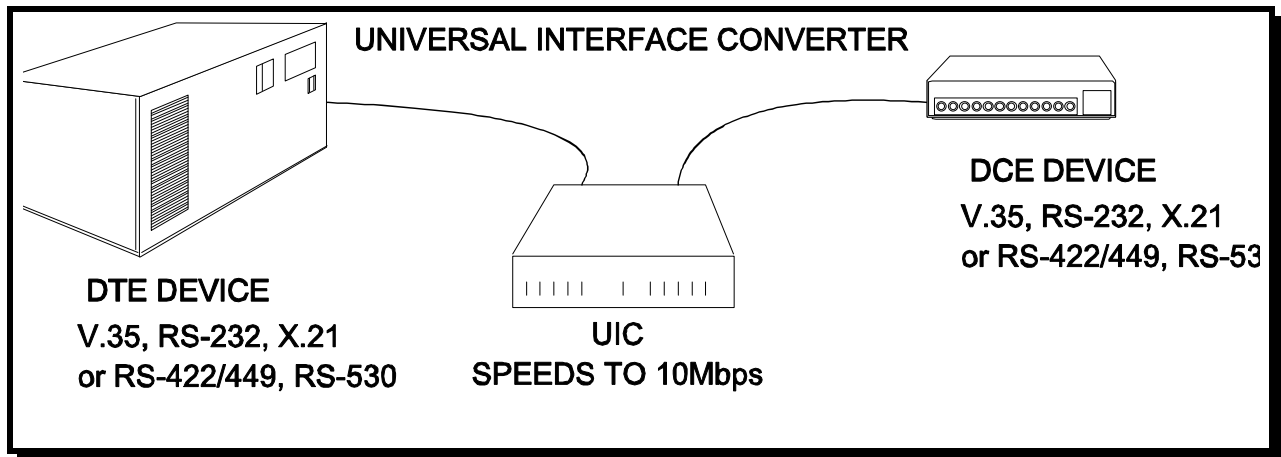
The UIC has two TTL level interfaces for connecting each data interface. Installation is fast and simple by plugging the DTE interface card into Port B and the DCE interface card into Port A. In all installations, Port B will always provide timing to Port A.

The UIC has status LED's for each attached data interface which allows the user to visually confirm the presence of control signals.

The UIC utilizes state of the art digital CMOS technology to provide a feature filled product at a very affordable price. Our Field Programmable Gate Array (FPGA) design has allowed us to offer this product with a wide selection of data interfaces.

The UIC is housed in a sturdy metal enclosure and operates on 110/220VAC.

The UIC has a three year warranty and a 24 hour turnaround on warranty repairs.



TYPICAL APPLICATION

Figure 1.1

CHAPTER 2 - BASIC OPERATION

2.1 FRONT PANEL INDICATORS

A *Green* LED marked **POWER** illuminates when AC Power has been applied. Two adjacent sets of *Green* LEDs, one for **PORT A** and another for **PORT B**, illuminate in unison with individual port control signal activity. Both Port A and Port B indicators flash in unison with Port A and Port B data interfaces(see section 2.4 Data Interfaces)

2.2 FRONT PANEL SWITCHES

Located on the front panel of the UIC are two dip switches. The switches are marked SW1 and SW2. For proper operation, **SW1**, positions 5 and 7 must be set to **OFF**. All other switches should be set to **ON**. Switch SW2 provides NO functions.

2.3 REAR PANEL POWER CONNECTOR

Located on the back or rear of the product you will find an **IEC POWER RECEPTACLE**. The supplied power cord plugs into this receptacle. This receptacle also contains a fuse drawer. Two (2) fuses are located in this compartment. For 110 VAC +/- 10% operation the unit is equipped with slow blow 160ma Fuses, Part # 714000. For 220 VAC +/- 10% operation the unit is equipped with slow blow 80ma Fuses, Part # 714001.

2.4 REAR PANEL DATA INTERFACE PORTS

Located adjacent to the IEC Power receptacle are the user selectable **DATA INTERFACE PORTS**. The ports are marked PORT A and PORT B. The data interfaces plug into the UIC main printed circuit board through these openings. The top two screws on the interface module hold the card into place. Both Port A and Port B indicators flash in unison with Port A and Port B data interfaces.

2.5 CLOCKING

The UIC must be externally clocked from **PORT B**.

2.6 DATA INTERFACES

The UIC has selectable **DATA INTERFACES** of V.35, RS-422/449, RS-530, X.21 and RS-232. The data interfaces are purchased separate from the main UIC unit.

2.7 DATA INTERFACE MODULE STRAPS

The UIC has user selectable data interfaces that are purchased separately from the main UIC unit. The available interfaces are V.35, RS-422/449, RS-530, X.21 and RS-232. Each Data Interface Module has straps(3 pin header) that force select data interface signals. Please refer to each interface modules documentation for a detailed explanation of both control signals supported and the available options for forcing control signals.

2.8 DATA INTERFACE REMOVAL

Disconnect the AC power source from the UIC and disconnect the users data cables from the Data Interface Module(DIM). Located on back panel of the UIC are PORT A and PORT B. Each DIM is plugged into and out of these ports through mating connectors. Using a phillips screwdriver, remove the top two screws of the DIM. Gently pull the module from the UIC housing. It may be easier to remove the top cover and while holding the edges of the DIM, rock the DIM back and forth as you pull the DIM out of the socket.

CHAPTER 3 - INSTALLATION

CAUTION: Disconnect Power Before Servicing
ATTENTION: Couper Le Courant Avant l' Entretien
VORSICHT: Befor Deckung Abnehmen Mach Strom Zu

3.1 VOLTAGE SELECTION

It is very important to check that the unit is set to the correct voltage setting for your application before applying AC power. Located on the rear of the unit you will find a rotary 110/220 VAC switch. Using a coin or small screwdriver, *gently* turn the switch to the appropriate power position as required for your installation (110 or 220 VAC).

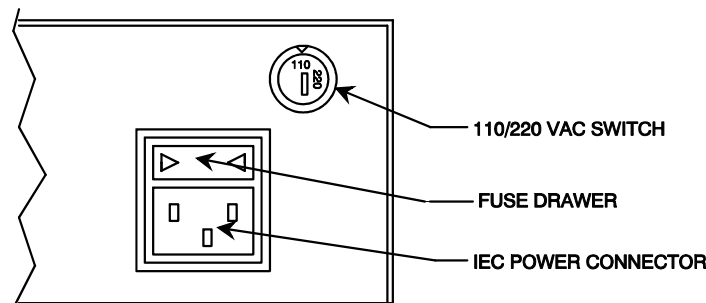
3.2 VOLTAGE SELECTION FUSES

Located on the back or rear of the product you will find an IEC Power receptacle. This receptacle contains a fuse drawer. Two (2) fuses are located in this compartment. For 110 VAC +/- 10% operation the unit is equipped with slow blow 5 x 20mm 160ma Fuses, E.C.D. Part # 714000. For 220 VAC +/- 10% operation the unit is equipped with slow blow 5 x 20mm 80ma Fuses, E.C.D. Part # 714001. Spare fuses may be purchased by calling East Coast Datacom or by calling the fuse manufacturer: Little Fuse at (312) 824-3024 or Shurter, Inc. at (707) 778-6311
 Little Fuse Part #'s are: 160ma = 218.160 and 80ma = 218.080
 Shurter, Inc. Part #'s are: 160ma = 034.3109 and 80ma = 034.3106

3.3 POWER CONNECTION

Before connecting the UIC to an AC power source the top cover should be installed with the supplied #6-32 screws. AC power is supplied to the unit through a 2.3m (6.6 ft) cord terminated by a grounded 3-prong plug. Select an appropriate location accessible to and within four to five feet of an AC outlet. The AC Power source MUST be grounded or the units Warranty will be void.

Power Connection
 Figure 3-1



3.4 DEFAULT CONFIGURATION SWITCH SETTINGS

The UIC is configured prior to shipping with the Dip Switches set as follows:

- 1) Clock Source - **Port B (Connect to DCE device)**
- 2) Control Signals - *Not Forced*
- 3) Chassis to Signal GND - *Not Connected*

If your system application requires one or more of the default settings to be changed, this is accomplished via the front panel switches.

3.5 DATA PORT CONNECTIONS

Before applying AC Power to the unit, the users cabling to the UIC Data Interfaces should be connected. Straight through shielded cables should be used. **PORT A** must *always* have a DCE interface module plugged into the port and connect to a DTE device. **PORT B** must *always* have a DTE interface module plugged into the port and connect to a DCE device.

3.6 SWITCH SETTINGS

3.6.1 DIP SWITCHES

The UIC has two *Dip Switch's* that are accessible via the front panel. The switches are marked **SW1** and **SW2**. For proper operation, **SW1**, positions 5 and 7 must be set to **OFF**. All other switches should be set to **ON**. Switch **SW2** provides **NO** functions.

4.0 - APPENDIX

4.1 V.35 INTERFACE CHART

V.35 INTERFACE CHART

Pin No	CCITT Circuit No.	Circuit Name	Signal Description	From DCE	To DCE
A	101	AA	Protective Ground	---	---
B	102	AB	Signal Ground	---	---
P	103	BA(A)	Transmit Data (A)		X
S	103	BA(B)	Transmit Data (B)		X
R	104	BB(A)	Receive Data (A)	X	
T	104	BB(B)	Receive Data (B)	X	
C	105	CA	Request to Send		X
D	106	CB	Clear to Send	X	
E	107	CC	Data Set Ready	X	
H	108	CD	Data Terminal Ready		X
F	109	CF	Received Line Signal Detect	X	
U	113	DA(A)	External Transmit Timing (A)		X
W	113	DA(B)	External Transmit Timing (B)		X
Y	114	DB(A)	Transmitter Signal Element Timing (A)	X	
AA	114	DB(B)	Transmitter Signal Element Timing (B)	X	
V	115	DD(A)	Receiver Signal Element Timing (A)	X	
X	115	DD(B)	Receiver Signal Element Timing (B)	X	

5.0 - TECHNICAL SPECIFICATIONS

Application

Allows interconnection of a DCE and a DTE device which have different data interfaces, converting signal levels and the physical data interface

Capacity

One DCE and one DTE device

Data Rates

Up to 10Mbps

Data Channel Interfaces

Available in V.35, RS-530, RS-422/449, RS-232 or X.21

* other interfaces available by special order

Surge Protection

Main power supply

Power Source

100-120 to 200-220VAC @10%, 50/60Hz, 0.16/0.08A, external 110/220 volt select switch, IEC Power Inlet, (2) 5mm Fuses

Environmental

Operating Temperature....32° to 122° F (0° to 50° C)

Relative Humidity.....5 to 95%

Non-Condensing

Altitude.....0 to 10,000 feet

Dimensions

Height 1.75 inches (4.44 cm)

Width 17.00 inches (43.18 cm)

Length 9.00 inches (22.86 cm)

Weight

2 pounds (0.914Kg)

Warranty

Three Years, Return To Factory

ORDERING INFORMATION

Model: UIC

Description: Universal Interface Converter

Interfaces Available:

DCE Cards(connects to a DTE)

V.35 DCE, PT# 129010

RS-530 DCE, PT# 129011

RS-422/449 DCE, PT# 129012

X.21 DCE, PT# 129013

RS-232 DCE, PT# 129014

DTE Cards (connects to a DCE)

V.35 DTE, PT# 129028

RS-530 DTE, PT# 129029

RS-422/449 DTE, PT# 129030

X.21 DTE, PT# 129031

RS-232 DTE, PT# 129032

INCLUDED WITH EACH UNIT:

- 1) Operations Manual
- 2) U.S.A. Grounded Power Cord, Part # 713015
- 3) Optional Power Cords
 - A) United Kingdom, Part # 713016
 - B) Continental Europe, Part # 713017
 - C) Other: Specify Country on Purchase Order

OPTIONAL ACCESSORIES

- 1) Spare Data Center Fuses
 - A) 160ma Fuse, Qty (2) Part # 714000
 - B) 80ma Fuse, Qty (2) Part # 714001

For further detailed technical information on this product, contact East Coast Datacom Technical Assistance toll free at (800) 240-7948