DESCRIPTION

The V.35 / X.21 Breakout Box is a troubleshooting tool used to determine the wiring of an V.35 or X.21 interface on a networking device or computer. The breakout box can be inserted between two V.35 or X.21 devices to determine which wires are active. Breakout boxes are useful in troubleshooting connection problems resulting from a manufacturer's device not using standard pinning or general trouble shooting signals in cabling. The unit has status LED's for each signal and flash or are solid green. Each signal lead on the unit allows user to break, pass or force individual signals or jumper together.

The V.35 / X.21 Breakout Box is housed in a sturdy aluminum enclosure and is supplied with an internal linear power supply. The unit has a 110/120 volt rotary select switch located on the rear of the housing. The unit can operate on standard power found in all countries.

VOLTAGE SELECTION

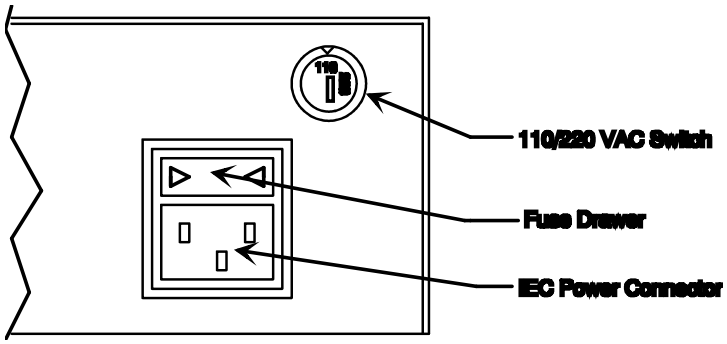
It is *very* important to check that the unit is set to the correct voltage setting for your application before applying AC power. Located on the rear of the unit you will find a rotary 110/220 VAC switch. Using a coin or small screwdriver, *gently* turn the switch to the appropriate power position as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

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 contacting the fuse manufacturer:
Little Fuse Part #'s are: 160ma = 218.160 and 80ma = 218.080
Shurter, Inc. Part #'s are: 160ma = 034.3109 and 80ma = 034.3106

POWER CONNECTION

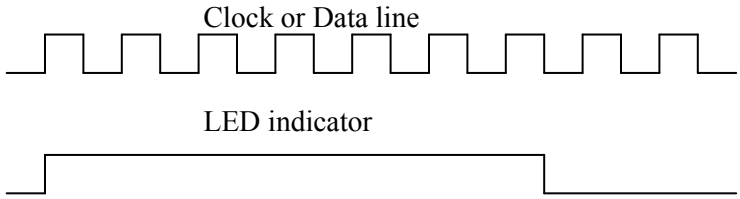
Before connecting the unit to an AC power source the top cover should be installed with the supplied #4-40 screws. AC power is supplied to the unit through a 2.3m (6.6 ft) cord terminated by a grounded 3-prong plug. Select an appropriate location accessible to and within four to five feet of an AC outlet. The AC Power source MUST be grounded or the units Warranty will be void.



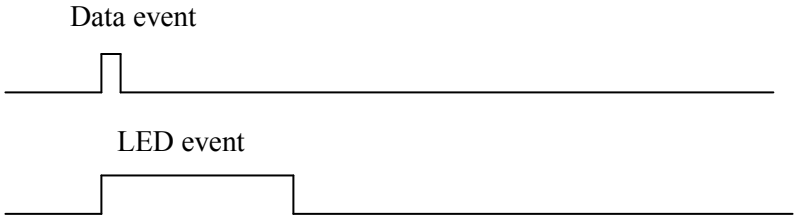
USING THE V.35 / X.21 BREAKOUT BOX

The V.35/X.21 Breakout Box provides access to all V.35/X.21 conductors when inserted between a Modem and Terminal device. The LED's monitor the status of all signals. The DIP SWITCHES allow the user to break contact of individual signals. Test points allow cross patching of signals.
When using a Breakout Box, the interpretation of the LEDS can at times be misleading. Many short term events, are undetected by a very brief flash of an LED. Also, constant events such as clocks or constant data may only be a faint glow on the LED.The V.35 Breakout Box contains circuitry to help alleviate this problem. A pulse stretching technique is used to keep the LED illuminated long enough to be interpreted. The following examples help to clarify this technique.

Example 1 – Clocks or data:



Example 2 – Short term data event:



Summary:
LED always on = Data line is always high
LED always off = Data line is always low
LED has a constant pulse rate = Data line is a clock or constant data
LED has an occasional pulse = Data line is an occasional event

V35/X21 Breakout Box ADAPTER CABLE PINOUTS

V35	X21
Brown/White Stripe A	1 Brown/White Stripe
Red/White Stripe P	2 Red/White Stripe
Yellow/Gray Stripe V	3 Yellow/Gray Stripe
Violet/White Stripe R	4 Violet/White Stripe
Black/White Stripe U	5 Black/White Stripe
White/Black Stripe Y	6 White/Black Stripe
Orange/White Stripe B	8 Orange/White Stripe
Red S	9 Red
Yellow X	10 Yellow
Violet T	11 Violet
Black W	12 Black
White AA	13 White

JUMPER PART NUMBERS

If the user needs extra jumper wire and jacks the Jacks are manufactured by KEYSTONE ELECTRONICS: PT# 6008 (Black Housing) 0.080 (2.0) DIAMETER TIP or Equiv. **http://www.keyelco.com**

Specifications

Application
Interconnection of two devices for confirmation or trouble shooting of data signals

Capacity
2-Ports passed through for monitoring

Rear Panel Serial Data Interfaces
V.35 and X.21

Data Format
Data Transparent at all Data Rates

Data Rates
up to 10Mbps

Signal Options
Passed, Break or Jumper

Front Panel Indicators
POWER and all Signals

Surge Protection
Main power supply

Power Source
AC Mains: 100-120 to 200-220VAC @10%, 50/60Hz, 0.16/0.08A, external 110/220 volt select switch, IEC Power Inlet, (2) 5mm Fuses
DC Mains: DC Voltage, Input Range of -36 to -72vdc Current Draw at 48vdc: 75ma @ 3.6watts

Environmental
Operating Temperature....32º to 122º F (0º to 50º C)
Relative Humidity.....5 to 95% Non-Condensing
Altitude.....0 to 10,000 feet

Dimensions
Height ..... 1.75 inches (4.44 cm)
Width ..... 9.00 inches (20.86 cm)
Length ..... 9.00 inches (22.86 cm)

Weight
3 pounds (1.36Kg)

Warranty
Three Years, Return To Factory

Regulatory Approvals
UL 60950-1:2003, CAN/CSA-C22.2 No. 60950-1:2003, FCC Part 15, EN55022:2006, ICES-003, Class A

ORDERING INFORMATION

Part Number: 119000
Model: V.35 B-BOX
Description: V.35 / X.21 Breakout Box, 110/220VAC

INCLUDED WITH EACH UNIT:
1) Operations Manual
2) Grounded Power Cord
3) Jumper Wires

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, Inc at: support@ecdata.co

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