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OPERATIONS MANUAL

DATA BROADCAST UNIT

DBU-V.11

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PT # 719014-B

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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EMISSIONS REQUIREMENTS

FCC CLASS A

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING: Charges of modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CANADIAN EMISSIONS

This digital apparatus does not exceed the Class A limits for noise emissions from a digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la Class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

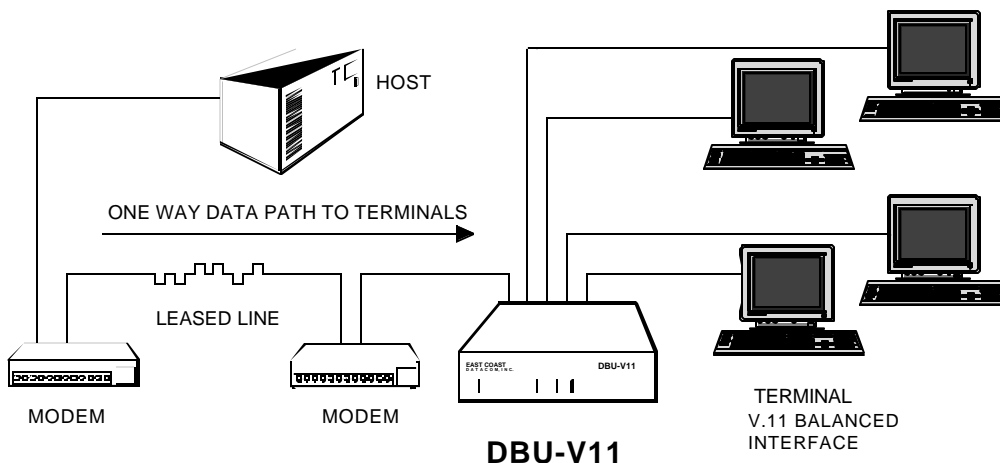
CHAPTER 1 - DESCRIPTION

The DBU-V11 is designed for use in receive only data broadcast applications. Examples of typical data broadcast applications are; continuously updated private or public data displays and distribution of continuous data to PC's or receive only printers. The expanding role of VSAT systems in receive only applications for real time data distribution is expected to increase dramatically over the next few years. The DBU-V11 is an excellent choice for applications of this type.

The DBU-V11 utilizes an ITU V.11 (X.21) balanced interface with a maximum data rate of up to 20Mbps. Additionally, V.11 can support data transmissions at far greater cable distances than does RS-232. The DBU-V11 can support an unlimited amount of receive only terminals simultaneously.

The DBU-V11's master port has tandem DB-15 connectors. This allows a dedicated input port and an additional port for cascading without losing a sub channel port. The DBU-V11 continuously broadcasts receive data, receive timing and Indicate (any user defined control signal from the main input data source may be used). The input signals are split with the internal circuitry and rebroadcast out on the eight output ports.

The DBU-V11 is housed in a sturdy aluminum enclosure and is supplied with an internal linear power supply. The unit has a 110/220 VAC rotary select switch located on the rear of the housing. The unit can operate on standard AC power found in all countries.



TYPICAL APPLICATION

CHAPTER 2 - BASIC OPERATION

Operation of the DBU-V11 is as simple as plugging a male DB-15 cable into the female DB-15 *INPUT PORT* on the back panel and plugging up to eight male DB-15 connectors into *Ports 1 - 8*. Data, Clock and Indicate are received on the Master Port and are broadcast out simultaneously on ports 1 -8. The following table shows the pin-out for the Master and sub-channel ports.

DB-15, X.21 PORT PIN OUTS

DB-15 FEMALE OR MALE CONNECTORS	
PIN NUMBER	PIN NAME
1	SHIELD
4	RECEIVE DATA (A+)
5	INDICATE (A+)
6	SIGNAL TIMING (A+)
8	GROUND
11	RECEIVE DATA (B-)
12	INDICATE (B-)
13	SIGNAL TIMING (B-)

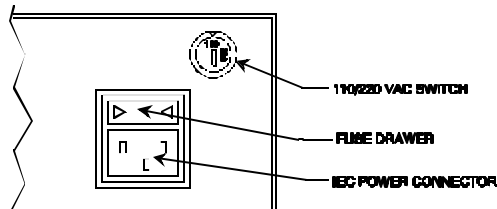
FRONT PANEL LED INDICATORS

Located on the front of the DBU-V11 are four green LED's. The Power indicator, marked **POWER** illuminates when AC voltage is applied to the box. Three adjacent LED indicators illuminate in conjunction with *Receive Data (DATA)*, *Receive Clock (CLOCK)* and the user defined control signal which is marked **INDICATE**. The *DATA* and *CLOCK* LED's will flash on and off at a constant rate regardless of the user's clock and data rate. The *INDICATE* LED will be illuminated when and if the user defined control signal is present.

CHAPTER 3 - SETUP AND INSTALLATION

POWER CONNECTION

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).



INSTALLATION

Connect the main input data feed source into the **INPUT** port DB-15 female connector. The output ports are marked **PORT 1** through **PORT 8**. Connect from one to eight DTE V.11 (X.21) compliant devices into the sub-channels ports on the back of the DBU-V11.

CASCADING AND TERMINATION RESISTORS

If more than one DBU-V11's are to receive Data, Clock and Indicate from the same source, a shielded DB-15 one-to-one extension cable with a male DB-15 on one end and a female DB-15 on the other end can be used to link the DBU-V11's together. The box **furthest** from the source of the data and clock should have jumpers **JMP2**, **JMP3** and **JMP4** moved to the **opposite** position of the factory default setting for proper termination. High quality shielded cables are recommended for box to box cascading. The cabling should be twisted pair with a wire mesh shield. All signal pairs should be kept together for clean quality signals. We recommend Belden 9833 or equivalent cable with metal hoods.

EQUIPMENT GROUNDING

Jumper **JMP1** provides for grounding interconnection in those systems requiring a connection between Pin #1 (*frame ground*) and Pin # 8 (*signal ground*). Please reference the PCB chart at the end of this document for further strapping details.

FORCED INDICATE TO INPUT PORT

Jumper **JMP5** provides for forcing Indicate high to the INPUT port.

TECHNICAL SPECIFICATIONS

Applications

Multiple synchronous broadcasting of Data, Clock and Indicate

Capacity

One to eight sub-channels; standard DB-15 pin (female) interface connector for each sub-channel

Data Format

Data transparent at all data rates

Data Rates

Up to 20Mbps

Electrical Interface

ITU V.11 (pinned to X.21)

Sub-Channel Interface

V.11, DB-15 female connectors

Master Port

V.11, Female/Male DB-15 connectors

Enclosure

Metal: Aluminum

Approvals

UL1950, FCC Class A
CE - EN60950, EN55022, EN50082-1

Front Panel

Indicator: Power, Data, Clock and Indicate

Power Requirement

100-120/200-220 VAC @ $\pm 10\%$, 47 to 63 Hz, 7 Watts

Switch selectable

ENVIRONMENTAL

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

Relative Humidity: 5 to 90% 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

4.5 lbs (2.1 Kg)

Shock and Vibration

Withstands normal shipping

Altitude

9842 feet (3000 meters)

NOTES: