UCI, UCI/HS

Universal Interface Converter

FEATURES

- Three units in one: interface converter, modem eliminator, and elastic buffer
- Interfaces supported: V.24/RS-232, V.35, V.36/RS-449, X.21 G.703
- Field replaceable interface modules
- DCE/DTE switch for each interface module (excluding G.703 interface)
- Data rates from 1.2 kbps to 2.048 Mbps
- G.703 support for:
  64 kbps codirectional
  1.544 Mbps - Unframed T1
  2.048 Mbps - Unframed E1

DESCRIPTION

- UCI is an universal interface converter, which can interface between any two data communications products with similar or different interfaces. UCI is unique in its ability to operate as an interface converter, a modem eliminator or an elastic buffer.
- Two models of UCI are available:
  UCI is a standard version, operating at data rates up to 2.048 Mbps using an external clock, or up to 512 kbps using the internal clock;
  UCI/HS is a high speed version, operating at data rates up to 2.048 Mbps using internal or external clock.
- UCI and UCI/HS are switch-selectable for operation in one of three modes: interface converter, modem eliminator, and elestic buffer.
- As an interface converter (see *Figure 1*), UCI enables the connection of a DTE to a DCE with different interfaces, performing all the physical and electrical conversions between the two interfaces.

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- As a modem eliminator (see *Figure 2*), UCI eliminates the need for two synchronous modems and enables direct connection of two DTEs which have similar or different interfaces. UCI provides clocks and performs hand-shaking of control signals, emulating modem operation.
- As an elastic buffer, UCI enables the connection of two independently clocked DCEs. In this mode, UCI provides bidirectional buffering of data, preventing loss of data that would otherwise occur due to the difference in clock phases. The two DCEs can have similar or different interfaces.
- The modular construction of UCI allows simple field adaptation. The unit comprises one main card and two plug-in interface modules. The main card includes an internal power supply and central control circuitry.
  The available interface modules are V.24/RS-232, V.35, V.36/RS-449, X.21, G.703 codirectional (64 kbps), G.703 at 1.544 Mbps (unframed) and G.703 at 2.048 (unframed). Interface modules can be mixed, allowing any combination of interfaces.
- Each interface module (except G.703 interface) features a DTE/DCE selection switch). This enhances the universality of UCI, allowing the unit to operate in various applications without the need for a cross cable.
- The G.703 1.544 and 2.048 Mbps interfaces provide ITU G.703 line interface for T1/E1 applications along with line driver, jitter attenuation and clock recovery functions. The interface complies with AT&T 62411 (1990 version) Jitter/Synchronizer (Stratum 4, Type II) requirements. Modulation techniques supported are unframed B8ZS, HDB3 and AMI. Transmitter return loss is rated at 14 dB.

APPLICATION

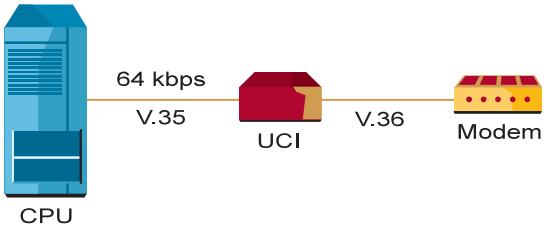

Figure 1. Interface Converter

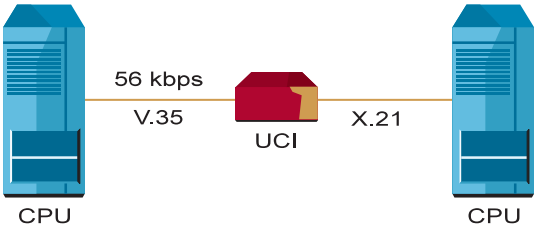

Figure 2. Modem Eliminator

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SPECIFICATIONS

INTERFACE CONVERTER

- **Data Rates**
  Up to 2.048 Mbps
- **Transmission Format**
  Synchronous
- **Transmission Mode**
  Full or half duplex

MODEM ELIMINATOR

- **Transmission Format**
  Synchronous
- **Transmission Mode**
  Full or half duplex
- **Timing**
  Internal or external clock, selectable:
  UCI Internal clock:
  1.2, 2.4, 4.8, 9.6, 16, 19.2, 32, 38.4, 48, 56, 64, 112, 128, 256, 384 and 512 kbps, selectable
  UCI/HS Internal clock:
  48, 56, 64, 112, 128, 256, 384, 512, 768, 1024, 1544 and 2048 kbps
  UCI External Clock:
  G.703 modules:
  64 kbps
  For all other interfaces:
  up to 2.048 Mbps
  UCI/HS External clock:
  G.703 modules:
  64, 1544 or 2048 kbps
  For all other interfaces:
  up to 2.048 Mbps
- **RTS/CTS Delay**
  Selectable to 0, 6 or 53 msec for each DTE
- **DCD**
  Selectable to be continuously ON or controlled by the RTS signal

ELASTIC BUFFER

- **Transmission Format**
  Synchronous
- **Transmission Mode**
  Full or half duplex
- **Data Rates**
  Up to 2.048 Mbps
- **Buffer Size**
  2 buffers, 256 bits each

GENERAL

- **Connectors**
  V.24/RS-232 via 25-pin, D-type female connector
  V.35 via 34-pin female connector
  V.36/RS-449 via 37-pin, D-type female connector
  X.21 via 15-pin, D-type female connector
  G.703/64k via 15-pin, D-type female connector
  G.703 T1 via 15-pin, D-type female connector
  G.703 E1 via 15-pin, D-type female connector or coax connector (see *Ordering*)
- **Power Supply**
  115 or 230 VAC (±10%), 47 to 63 Hz, 5W;
  48 VDC
- **Physical**
  Height: 4.4 cm / 1.7 in
  Width: 26.6 cm / 10.5 in
  Depth: 24.3 cm / 9.6 in
  Weight: 2.0 kg / 4.4 lb
  (with two interface cards)
- **Environment**
  Temperature: 0-50^{O}C / 32-122^{O}F
  Humidity: Up to 90%, non-condensing

Figure 3. Elastic Buffer

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ORDERING

UCI/*
Universal Interface Converter operating at data rates up to 2.048 Mbps with external clock, or up to 512 kbps with internal clock.

UCI/HS/*
Universal Interface Converter, operating at data rates up to 2.048 Mbps with any clock.

UCI-M/#
Interface Module for UCI (two modules are required for every application).

* Specify power supply:
115 for 115 VAC operation
230 for 230 VAC operation
48 for -48 VDC operation

\# Specify type of interface:
V24 for V.24/ RS-232 interface
V35 for V.35 interface
V36 for V.36 (RS-449/RS-422) interface
X21 for X.21 interface
703/64k for G.703, 64 kbps codirectional interface
703/T1 for G.703 1.544 Mbps (T1) interface
703/E1 for G.703 2.048 Mbps (E1) interface with a 15-pin D-type connector
703/E1/UB for G.703 2.048 Mbps (E1) interface with a coax cable

RM-3

Special hardware for mounting one unit into a 19” rack.

RAD
data communications

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