



ITA-703

G.703 Rate and Interface Converter

FEATURES

- Data rate and interface conversion from RS-232/V.24 DTE to G.703 co-directional (64 kbps)
- Sync or async, data rates up to 19,200 bps
- Compatible with CCITT I.463 (V.110), I.460
- CCITT V.54 diagnostics (local and remote loops)
- Downline loading of configuration to remote unit

DESCRIPTION

- The ITA-703, Rate and Interface Converter, enables connection of low speed DTE equipment to a G.703 co-directional interface, for interconnection with the PCM network. Rate conversion is performed according to CCITT I.463 (V.110) and I.460 standards, enabling access to ISDN terminal adapters.
- The ITA-703 operates synchronously or asynchronously at V.24 rates up to 19,200 bps. For async rates of 600 bps and higher, the async to sync conversion technique is compatible with CCITT V.14. For async rates lower than 600 bps, the ITA-703 operates synchronously at 19,200 bps and over-samples the async data.



- Coupling to the G.703 4-wire interface line is through isolation transformers which, in conjunction with other circuitry, protect against AC or DC overvoltages.
- The ITA-703 supports a full duplex transmission rate of 64 kbps for a transmission distance of up to 800 meters (1/2 mile) from the G.703 equipment. The high speed transmit timing source is strap-selectable for either :
 - Recovered clock from the G.703 interface;
 - External timing from the V.24 interface;
 - Internal timing.
- Diagnostic features include local loopback and remote digital loopback in compliance with CCITT V.54. The operator at either end of the line may test both units and the line when in the digital loopback mode. Loopback can be controlled either from the front panel push-buttons or via pins 18 and 21 of the V.24/RS-232 interface.
- V.24 configuration parameters (such as bit rate, bit length and sync/async) can be selected at each ITA-703, or else centrally at the "master" ITA-703. Parameters are downline loaded from the "master" to the "slave" ITA-703.
- The control signals RTE and DTR are passed end-to-end to DCD and DSR respectively, in compliance with CCITT I.463 (V.110). Alternatively DSR can be set separately to be continuously ON.
- The ITA-703 is available as a desk-top unit or as a card for insertion in a 19" card-nest. The card-nest can carry up to fourteen cards. Special hardware for mounting the stand-alone units in a 19" rack can be ordered separately (see Ordering). This hardware enables installation of either one or two units side-by-side. Unit height is only 1U (1.75"), requiring minimal rack space.

SPECIFICATIONS

Terminal Interface

Type:
EIA RS-232/CCITT V.24

Format:
Sync or async, full duplex

Data Rates:
600, 1,200, 2,400, 4,800, 7,200,
9,600, 14,400, 19,200 bps

Character Length (async mode):
Selectable 8, 9, 10, 11

Control Signals:
RTS, DTR, DCD, DSR, CTS are
passed through according to
CCITT I.463
DSR may be set to constantly ON,
strap-selectable

Connector:
25-pin D-type, female

G.703 Interface

Co-directional, 64 kbps

Line:
4-wire

Physical:
RJ-45S or terminal block

Range:
Up to 800 meters
(1/2 mile) over 24 gauge

Impedance:
120 ohm, balanced

Balance:
Better than 45 dB
(up to 256 kHz)

Return Loss:
Better than 20 dB
(up to 256 kHz)
Better than 14 dB
(up to 384 kHz)

Clock Frequency:
64 kHz

Frequency Tracking:
±500 ppm

"Pulse" Amplitude:
1.0 V nominal

"Zero" Amplitude:
0 V ±0.1 V max

Test Switch Diagnostics

Diagnostics:
Comply with V.54 standard

Local Loopback:
Local (ANA) activated by manual
push-button or by the DTE
interface signal, pin 18

Digital Loopback:
Local (DIG) activated by manual
push-button
Remote (REM) activated by
manual push-button or by the
DTE interface signal, pin 21

G.703 Timing

Transmit clock is derived from
three alternative sources:
Internal
External from the terminal,
via pin 24
Loop clock derived from the
receive signal looped back

Low speed clock (pins 15 and 17)
is derived from G.703, 64 kHz
transmit clock. One master clock
generator is required

Indicators

Power (PWR)
Transmit Data (TD)
Received Data (RD)
Request to Send (RTS)

Sync Loss, G.703
ON when no valid G.703 receive
signal available

Sync Loss, V.110
ON when no valid synchronization
pattern available

Test (TST)
ON when in a test mode

Power

115/230 VAC (±10)

Physical

Height: 44 mm / 1.7 in
Width: 193 mm / 7.6 in
Depth: 244 mm / 9.5 in
Weight: 1.4 kg / 3.1 lb

Environment

Temperature: 0-50°C/23-122°F
Humidity: Up to 90%,
non-condensing

ORDERING

ITA-703/+/#

G.703 Converter, stand-alone unit
with internal power supply

ITA-703R

G.703 Converter, card for
ASM-MN-114 19" card-cage

RM-2

Hardware for mounting one or two
stand-alone units in a 19" rack

ASM-MN-114/+/#

Card-cage for 14 ITA-703R cards

+ Specify:

115 for 115 VAC operation
230 for 230 VAC operation

Specify:

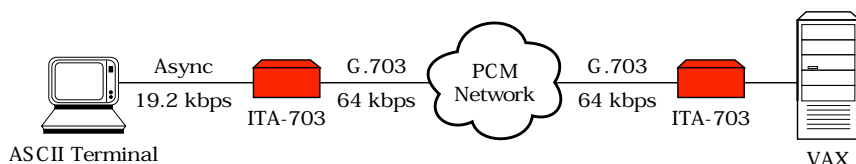
TB for terminal block
RJ for RJ-45 socket

■ Specify G.703 connector:

D for dual redundant, load sharing
power supply

Specifications are subject to change without
prior notification

APPLICATION



data communications

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