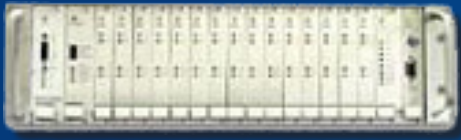


# VERSATILE MULTIPLEXER



Model No: ICS VM - 30

## ICS-VM-30

ICS is a trusted manufacturer of Multiplexing Equipment. Multiplexing Equipment is packed with all advanced features, which are required to employ in multi-service leased line access network. The user friendly operation of the Multiplexing Equipment has raised the demand in the global markets.

*The Versatile MUX is a versatile multiplexing equipment packed with all the advanced features required of a time division multiplexing equipment to be employed in a multi-service leased line access network. It paves the path towards the development of a fully managed leased line network by providing efficient and robust network management capabilities. ICS.VM 30 Drop Insert Multiplexer is a state of the art solution multiplexer technology to meet modern network communication requirements. The equipment operates at a primary rate of 2048 kbps and can provide service to 30 voice / data channels.*

### System Composition

- Core Units
- Control Card 1
- Control Card 2
- Power Supply Card
- Back Panel Mother board

### Interface Cards

- V.24 data interface card
- V.35 ( NX 64 ) data interface card
- G.703 data interface card
- 2 wire outgoing trunk interface card
- 2 wire incoming trunk interface card
- 2 wire exchange loop interface card
- 2 wire subscriber loop interface card
- 2 wire E&M trunk interface card
- 4 wire E&M trunk interface card
- Teleprinter interface card

### System Features

- Drop and insert / end terminal applications
- Voice / data service
- Modularity of interfaces at 2 channel level
- Drop/insert of any time slot at the same station
- Multidrop for data channels
- Channel assignment independent of slot position in the subrack
- PC interface
- Monitoring and network control
- Extensive set of alarms
- User programmable alarm responses
- Synchronism to different user selectable clock sources
- Software programmable level setting
- Diagnostic feature for termination cards
- Automatic bypass during node failure
- Microprocessor and software based design
- Compliance with all relevant CCITT recommendations
- Compact and composite construction
- Fully solid state
- No forced cooling required

NOTE : The specifications can be changed without notice due to technological advances.



## INNOVATION COMMUNICATIONS SYSTEMS LTD

(an ISO 9001-2008 company)

8-3-898/30/2, Road No: 3, Nagarjuna Nagar Colony, Ameerpet, Hyderabad - 500 073, Andhra Pradesh, India

Tel: +91- 40 - 23752790, 23730083

Fax: + 91- 40 - 23752788

[www.icsglobal.biz](http://www.icsglobal.biz)

[info@icsglobal.biz](mailto:info@icsglobal.biz)

Your IT Partner

# VERSATILE MULTIPLEXER



Model No: ICS VM - 30

## ICS-VM-30

### Facilities

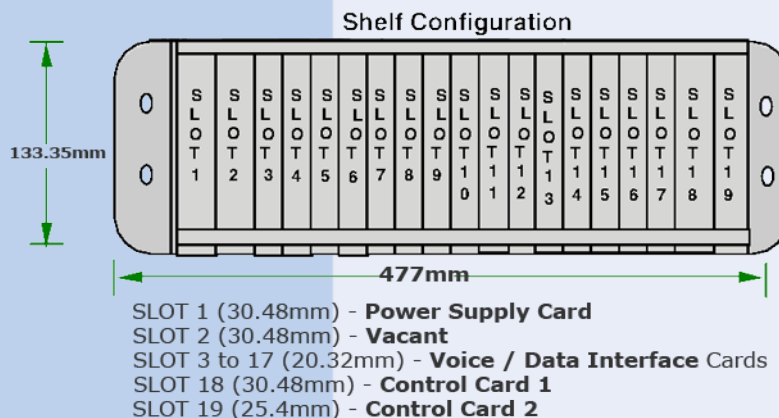
- Synchronous high speed (64kbps) data communication with V.35 ( N\*64 ) data interface
- Point to point synchronous / asynchronous low speed (upto 19.2 kbps) data communication with V.24 data interface
- Point to Multipoint synchronous / asynchronous low speed (upto 19.2kbps) data communication with V.24 data interface (Multidropped polled data mode )
- Codirectional data (64kbps) communication with G.703 data interface

*Point to point voice mode exchange interfaces providing the following*

- 2 wire / 4 wire E&M signalling
- Loop disconnect signalling
- 16kHz metering detection

*Point to point voice mode subscriber interface providing the following*

- Loop disconnect signalling
- Ring down with decadic pulsing
- 16kHz metering injection
- Conference voice mode with a maximum of twelve 3 party conferences
- Teleprinter operation (50 / 100 baud) with teleprinter interface 75 / 120 impedance selection at primary rate ports



NOTE : The specifications can be changed without notice due to technological advances.

# VERSATILE MULTIPLEXER

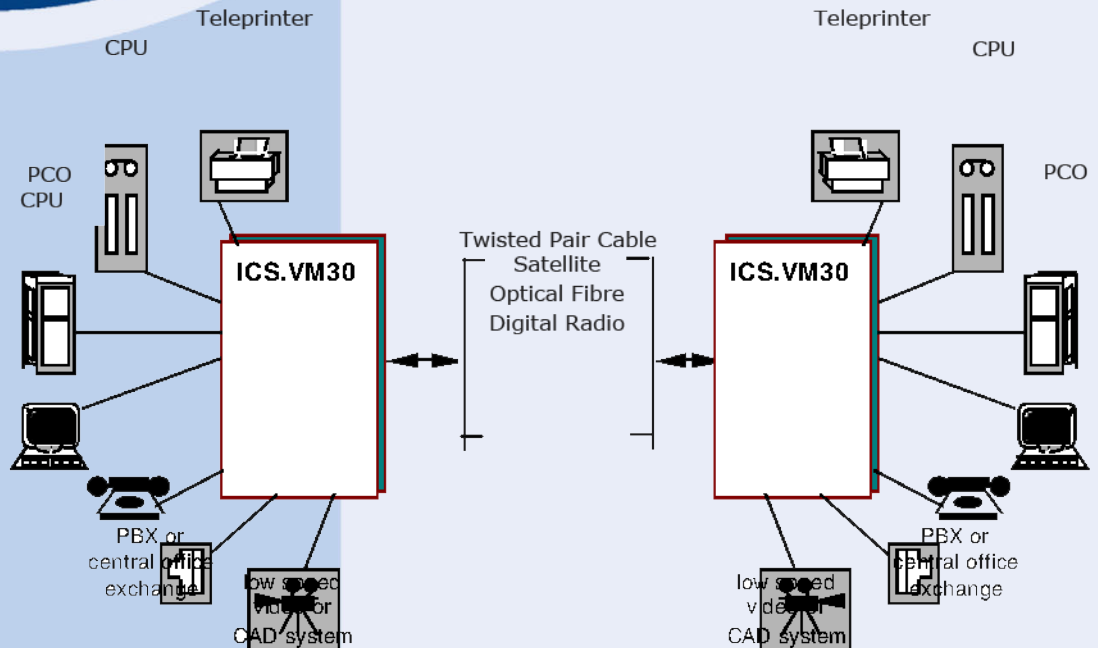


Model No: ICS VM - 30

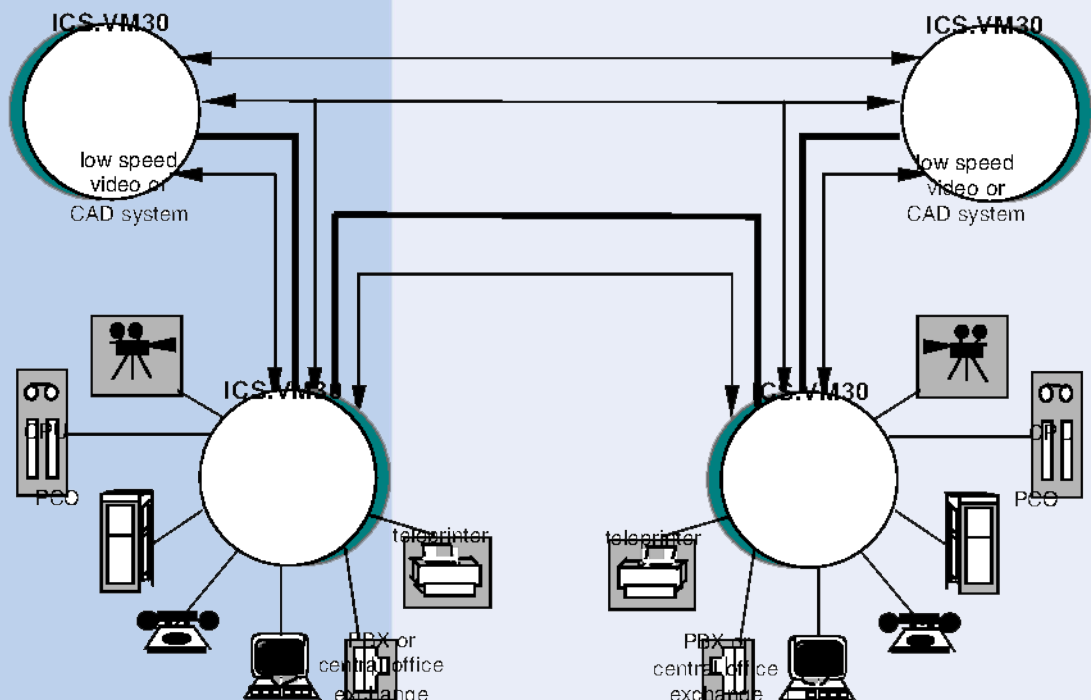
## ICS-VM-30

### BASIC CONFIGURATION

#### Terminal Multiplexer



#### Drop / Insert Multiplexer



NOTE : The specifications can be changed without notice due to technological advances.

# VERSATILE MULTIPLEXER

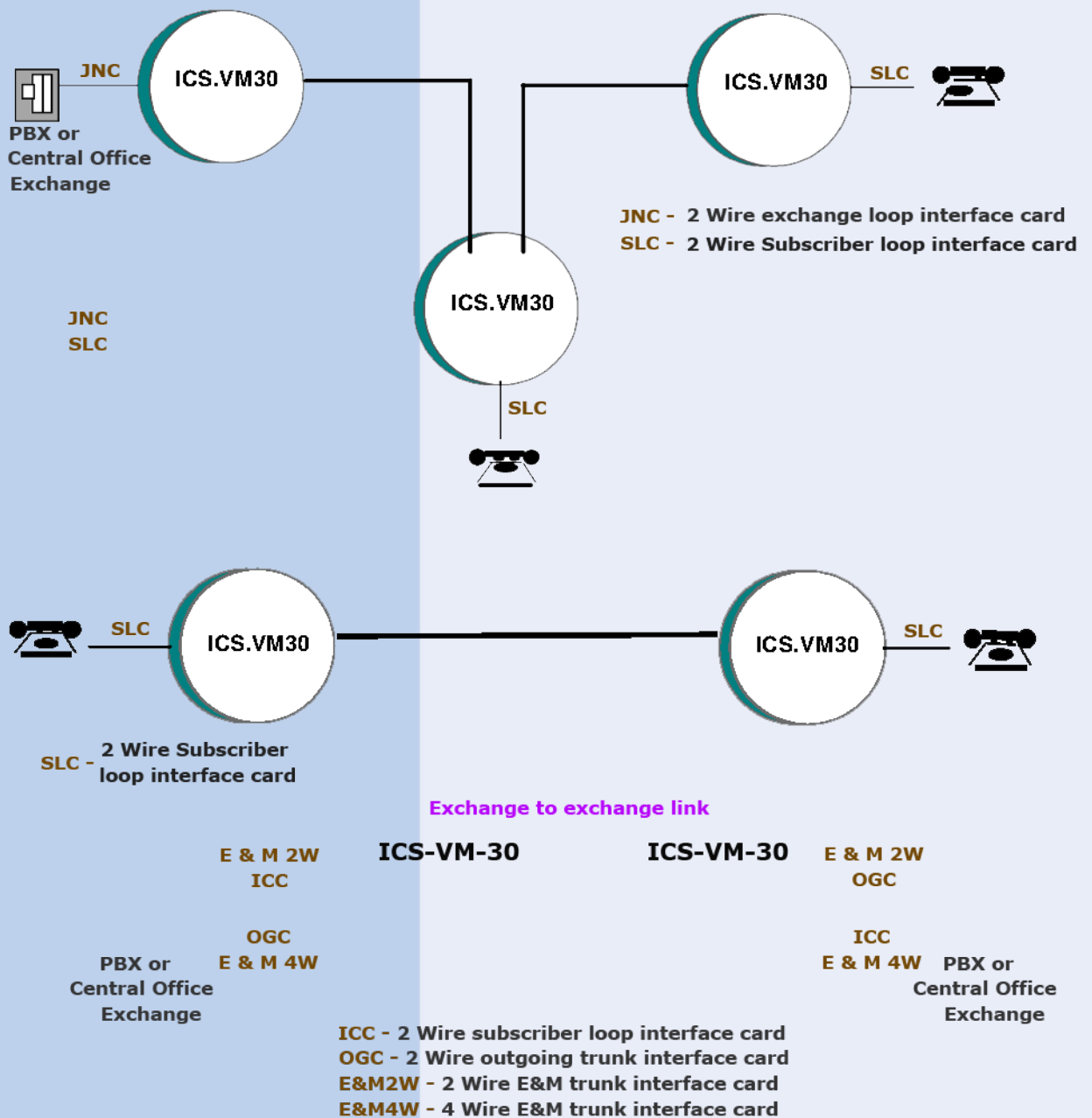


Model No: ICS VM - 30

## ICS-VM-30

Data Channel Applications  
Voice Channel Applications

Extension of Subscriber to Exchange



NOTE : The specifications can be changed without notice due to technological advances.

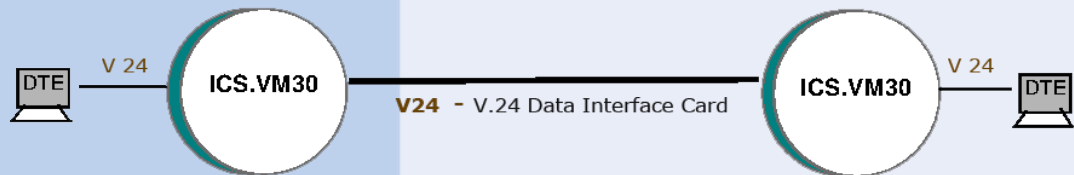
# VERSATILE MULTIPLEXER



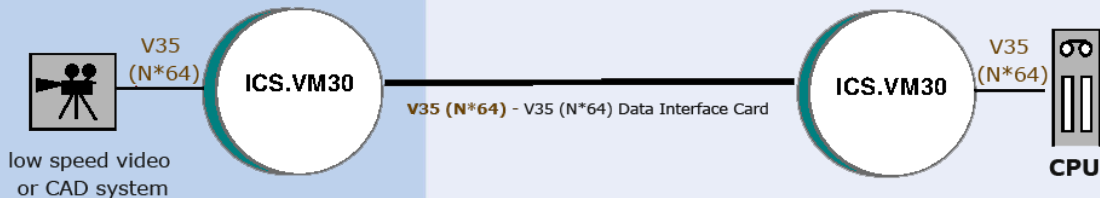
Model No: ICS VM - 30

## ICS-VM-30

**Data Channel Applications**  
Low speed (upto 19.2 kbps) Synchronous / Asynchronous Data Interface



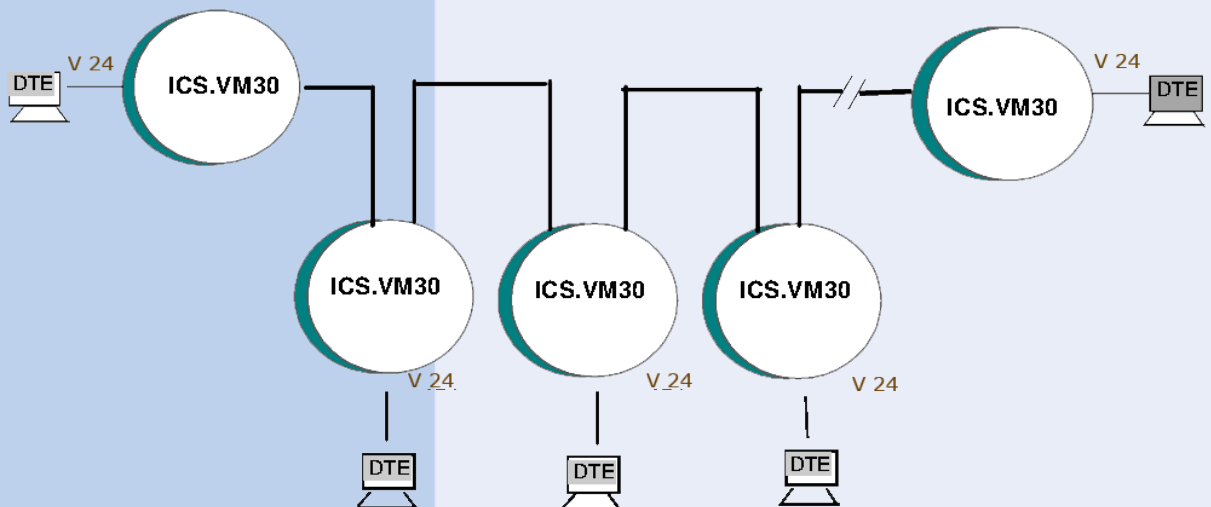
High Speed (upto 64 kbps) Synchronous Data Interface



64 kbps Codirectional Interface



**Polled Data Communication**



NOTE : The specifications can be changed without notice due to technological advances.

V24 - V.24 Data Interface Card



# VERSATILE MULTIPLEXER

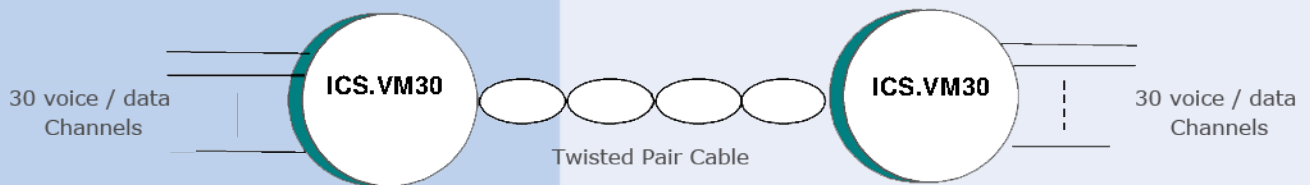


Model No: ICS VM - 30

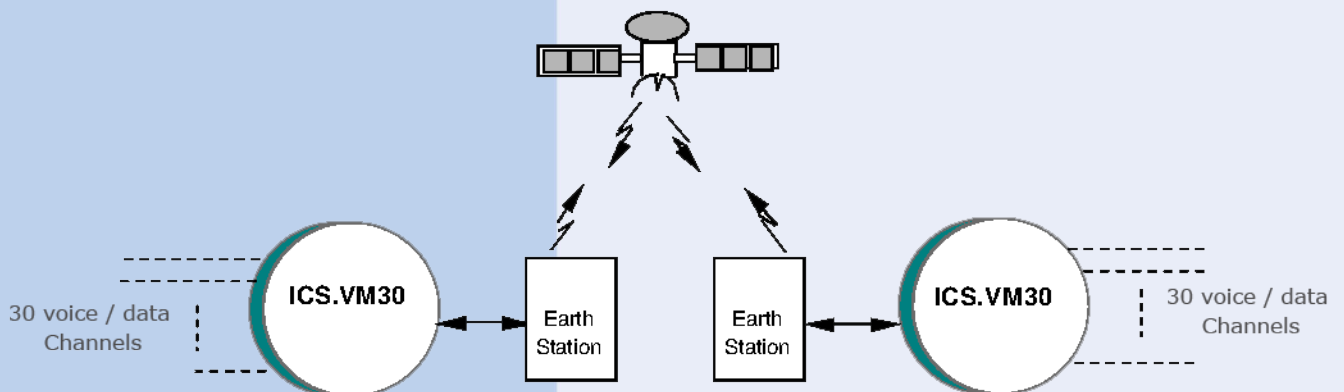
## ICS-VM-30

### Transmission Media

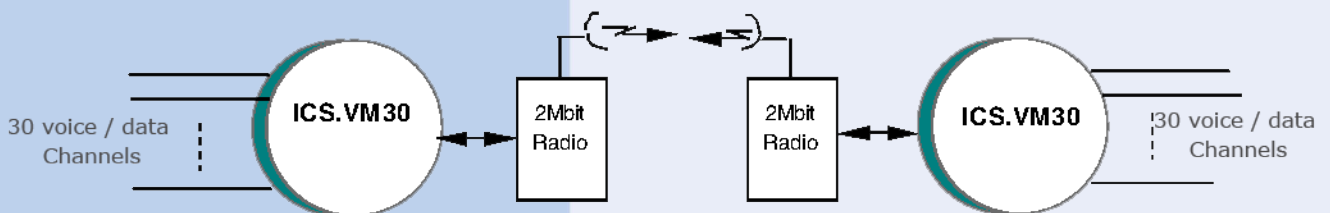
#### Twisted Pair Cable



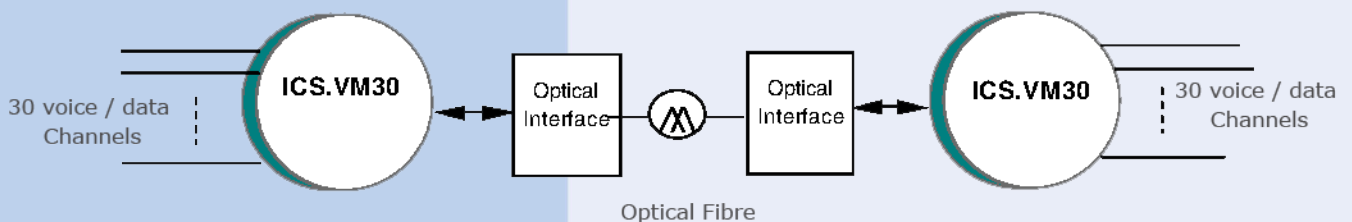
### Digital Satellite Circuit



### Digital Radio



### Optical Fibre



NOTE : The specifications can be changed without notice due to technological advances.

# VERSATILE MULTIPLEXER

Model No: ICS VM - 30



## ICS-VM-30

### Power Supply

Input DC voltage : -48V DC (nominal)  
Range of input : -20V to -60V DC  
Output voltages : +5V, -5V,  
75 Vrms (ringer voltage),  
filtered -48V (for term cards)  
Output voltage variation : within 5% of output nominal  
voltage  
Full load output current : 4A at +5V  
0.5A at -5V  
Input voltage reversal protection : provided in the card  
Over current protection : 6A for +5V, 0.5A for -5V  
Short circuit protection : current limit - 6A. Recovers  
on removal of short  
Under voltage : < 4.5V  
Over voltage : 5.4V to 5.6V  
Efficiency at full load : >70%  
Ripple at full load : <5mVrms  
Spike at full load : <50mV  
Power consumption : 42W

### Synchronisation

Synchronisation sources : Internal clock, external  
clock, timing derived from  
incoming HDB3 links  
External clock input : as per CCITT rec. G.703  
Impedance of external  
clock input port : 120 balanced /75 unbal-  
-anced  
Default option : internal clock

### Mechanical Specifications

Rack mounting : Standard 19 inch rack  
Height : 133.35mm  
Depth : 260mm  
Width : 477mm

### Transmit level

Nominal : - 3.5 dBr  
Maximum : + 4.0 dBr  
Range of level adjustment : 15 dB  
Level adjustment : in steps of 0.5 dB

### Technical Specifications

- Digital Interface at 2048kbps Number : 2
- Conformity : G. 703
- PCM sampling rate : 8000 samples/ sec
- Encoding law : A law as per CCITT G.823
- Bit rate : 2048 kbps 50 ppm
- Code : HDB3
- Nominal Impedance : 120 balanced/75 unbalanced
  - Peak Voltage of a mark
    - for 120 balanced interface : 3.0 V 0.3 V
    - for 75 unbalanced interface : 2.37 V 0.237 V
  - Peak Voltage of a space
    - for 120 balanced interface : 0 V 0.3 V
    - for 75 unbalanced interface : 0V 0.237 V
- Nominal Pulse Width : 244 ns
- Pulse Mask : as per CCITT rec. G.703
- Output Jitter : < 0.05 UI (in the frequency range 20Hz to 100kHz )
- Permissible attenuation : 6 dB at 1 MHz
- Return Loss at:
  - 51.2 KHz to 102.4 KHz : > 12dB
  - 102.4 KHz to 2048KHz : > 18dB
  - 2048KHz to 3072 KHz : > 14dB
- Jitter tolerance : as per CCITT G.823
- Frame Structure : as per CCITT G.704
- Signaling : Channel Associated Signaling
- Loss and recovery of frame alignment : as per clause 3 of CCITT G.732
- Loss and recovery of multiframe alignment : as per clause 5.2 of CCITT G.732
- 4 wire voice frequency interface
  - Number per card : 2
  - Maximum number : 30

NOTE : The specifications can be changed without notice due to technological advances.



**INNOVATION COMMUNICATIONS SYSTEMS LTD**

(an ISO 9001-2008 company)

8-3-898/30/2, Road No: 3, Nagarjuna Nagar Colony, Ameerpet, Hyderabad - 500 073, Andhra Pradesh, India

Your IT Partner

Tel: +91- 40 - 23752790, 23730083

Fax: + 91- 40 - 23752788

www.icsglobal.biz

info@icsglobal.biz