



MODEL.No. ICS DNET - 240X



INNOVATION COMMUNICATIONS SYSTEMS LTD

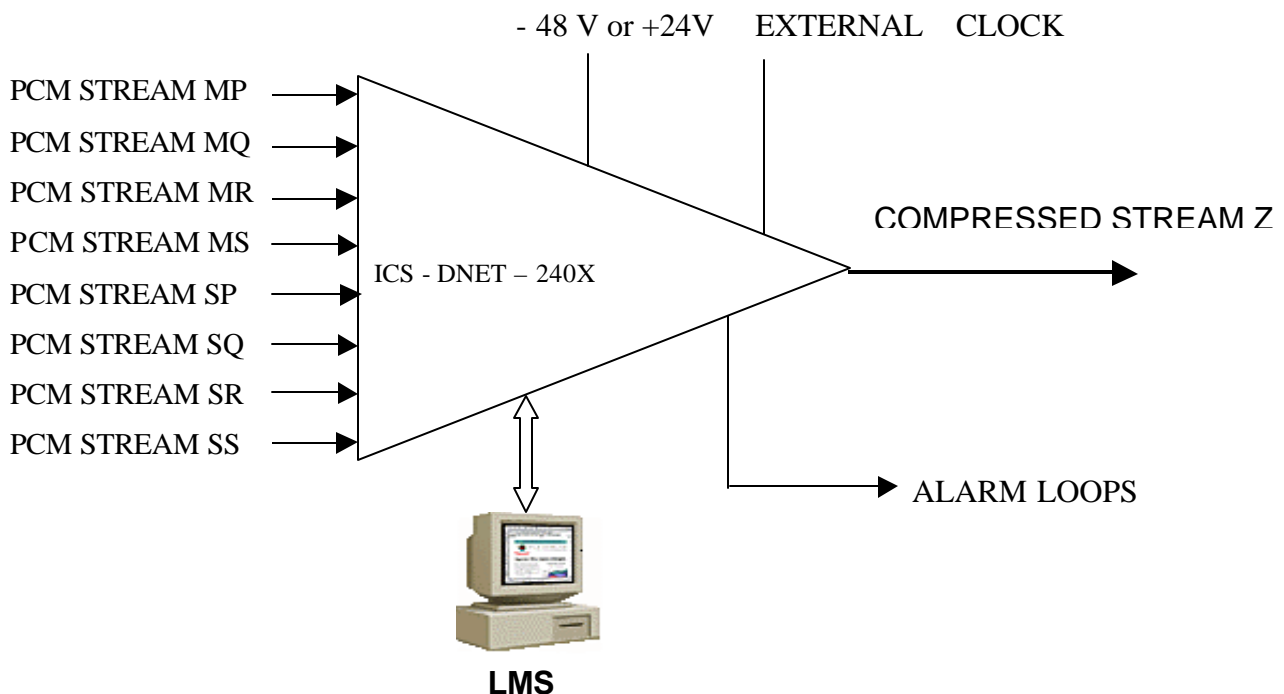
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SYSTEM OVERVIEW

ICS-DNET-240 X Voice compression System (CELP Transcoder) is a state of the art solution for enhancing Network Connectivity in a cost effective way. A single Voice compression System (CELP Transcoder) combines eight conventional 2.048 Mbps PCM E1 Trunks into a single E1 Trunk catering for 248 Channels by adopting CELP coding.

The Transcoder is designed to accept eight 2.048 Mbps streams where voice channels are coded following A - law using 64 Kbps per channel and to convert these voice channels into one 240 channel CELP stream using 6.4 Kbps per channel. The eight PCM streams are designated as MP, MQ, MR, MS, SP, SQ, SR and SS. The CELP port is called as Z. The reverse process is also done, i.e., a 2.048 Mbps, 240 Channel CELP stream with 6.4 Kbps per channel is received at the Z Port and gets decoded into eight 2.048 Mbps, 30 channel PCM streams with 64 Kbps per channel to be given out at the output ports of as MP, MQ, MR, MS, SP, SQ, SR and SS.

The hardware design of the Transcoder card envisages the primary objectives of high reliability, low power consumption and compactness. Integrated circuit components used in the system hardware have high reliability, which ensures overall system reliability CMOS components have been used to reduce power consumption.



ICS-DNET-240X VOICE COMPRESSION SYSTEM.

EXTERNAL INTERFACES:

- MP : Primary rate (2.048 Mbps) PCM port,
- MQ : Primary rate (2.048 Mbps) PCM port,
- MR : Primary rate (2.048 Mbps) PCM port,
- MS : Primary rate (2.048 Mbps) PCM port,
- SP : Primary rate (2.048 Mbps) PCM port,
- SQ : Primary rate (2.048 Mbps) PCM port,
- SR : Primary rate (2.048 Mbps) PCM port,
- SS : Primary rate (2.048 Mbps) PCM port,
- Z : Primary rate (2.048 Mbps) CELP port,
- Input -48V / +24V(Optional) required for the power supply,
- RS 232 interface for communicating with a local terminal (PC)
- Alarm extension for audible and visual alarms.

SYSTEM HIGHLIGHTS:

- Compact and composite construction,
- Fully solid state,
- No forced cooling required,
- Safeguarding facility for a nominated MS PCM stream in case of 8:1 VCS / power failure
- Effective man – machine interface,
- Extensive set of alarms,
- Facility of synchronize to different clock sources,
- System clock selectable by the user,
- Automatic clock switch – over to internal clock on failure of selected clock.
- PC interface to monitor and control local terminal.
- Non volatile memory for configuration storage.

SAILENT FEATURES:

- Combines eight 31 channel 2.048 Mbps streams into a single 248 channel 2.048 Mbps stream,
- Up to eight 64 Kbps transparent channels per trunk,
- Supports Common Channel Signaling on any one of the PCM Stream of MP, MQ, MR and MS.
- Low power consumption,
- Equipment can function over a wide range of DC supply (-48V \pm 20%), or (+ 24 V \pm 10%)
- Provision of extensive alarms for operation and maintenance,
- Provision for connecting a PC

TECHNICAL SPECIFICATONS OF ICS-DNET-240 X

General: Conforms to ITU – T Recommendations G.723, G.703, G.704 and G.706.

Digital Interface at PCM ports MP, MQ, MR, MS, SP, SR, and SS

- Number Eight (MP, MQ, MR, MS, SP, SR, and SS),
- Conformity G.703,
- PCM Sampling rate 8000 samples/sec,
- Encoding law A-law as per ITU – T G.823,
- Bit rate 2048 Kbps \pm 50 ppm,
- Channel rate 64 Kb/s per Channel,
- Line code HDB3,
- Nominal impedance 120 Ω balanced / 75 Ω unbalanced,
- Peak voltage of a mark 3.0 \pm 0.3 V (For 120 Ω), 2.37 \pm 0.237 (For 75 Ω),
- Peak voltage of a space 0 \pm 0.3 V (For 120 Ω), 0 \pm 0.237 V (For 75 Ω),
- Pulse width 244 \pm 24 nsec,
- Nominal pulse width 244 nsec,
- Pulse mask as per ITU – T Recc. G.703,
- Output Jitter < 0.05 UI (when system is working with internal and external clock and measured within the frequency range from 20Hz to 100 KHz)
< 0.1 UI (when system is working with recovered clocks and measured in the frequency range of 20 Hz to 100 KHz),
- Permissible attenuation 6 dB at 1024 KHz,
- Return loss at :
 - 51.2 KHz to 102.4 KHz > 12 dB,
 - 102.4 KHz to 2048 KHz > 18 dB,
 - 2048 KHz to 3072 KHz > 14 dB,
- Jitter tolerance as per ITU – T Recc. G.823,
- Frame Structure as per ITU – T Recc. G.704,
- Loss and recovery of frame Alignment as per clause 3 of ITU – T Recc. G.732,
- Loss and recovery of multi-Frame alignment as per clause 5.2 of ITU - T Recc. G.732

DIGITAL INTERFACE AT CELP PORT Z :

- Number One
- Bit rate 2048 Kbps \pm 50 ppm
- Channel rate 6.4Kb/s per Channel,
- Line code HDB3,
- Nominal impedance 120 Ω balanced / 75 Ω unbalanced,
- Peak voltage of a mark 3.0 \pm 0.3 V (For 120 Ω), 2.37 \pm 0.237 (For 75 Ω),
- Peak voltage of a space 0 \pm 0.3 V (For 120 Ω), 0 \pm 0.237 V (For 75 Ω),
- Pulse width 244 \pm 24 nsec,
- Nominal pulse width 244 nsec,
- Pulse mask as per ITU – T Recc. G.703,
- Output Jitter < 0.05 UI (when system is working with internal and external clock and measured within the frequency range from 20Hz to 100 KHz)
< 0.1 UI (when system is working with recovered clocks and measured in the frequency range of 20 Hz to 100 KHz),
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OTHER SPECIFICATIONS :

Nominal DC voltage - 48 V \pm 20% DC, Or +24V \pm 10%
Output Voltage \pm 5 V, \pm 5%, \pm 3V, \pm 5%, 1.8 V, \pm 5%

MECHANICAL SPECIFICATIONS: 19" rack mountable 2U height.

For Further information, please Contact

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