E3 Audio Cassette Interface

- RS232 WITH STANDARD CONNECTIONS
- POSITIVE DATA TRANSFER INTEGRITY
- UP TO 2400 BAUD DATA TRANSFER
- BATTERY SUPPLY
- SIMPLE OPERATION

The E3 is designed to provide a very simple interface for digital data storage using standard I/O connections. The unit may be run from internal batteries or connected to mains via a readily available calculator type mains adaptor. The interface will continue to run reliably down to 30% below nominal battery voltage. Industry standard 'D' connectors are used for serial I/O as well as a standard DIN connector used on cassette tape recorders.

Data may be transmitted at up to 2400 baud with clock synchronization to good tape cassette recorders. Typically, at this speed, 4K of data may be loaded per minute which would allow the storage of more than two hundred 2708 EPROMs or fifty 2732 EPROMs, on one C60 cassette. Where master programs must be stored for future use considerable savings will be made over holding this data on individual master EPROMs. The advanced design phase lock loop tracking allows data integrity to be maintained with lesser quality recorders at slightly lower transfer rates without clock synchronization.

The E3 interface may be used with most systems which incorporate a standard bidirectional RS232 facility. The operation for both recording and playing back is extremely simple. Audible instructions may be dictated prior to loading new data. A change in tone indicates recording or playback mode.

The Tandberg Model TPR101 is offered as a standard option, but any equal quality unit may be used.

Specifications

Dimensions: 14 cm Wide, 6.5 cm High, 19.5 Deep
Weight: ½ Kg
Power: 4 x AA Cells supplied or calculator type 9V DC mains supply: consumption < 30mA

Temperature: 15–30°C ambient
Connections: External Power Supply Unit – 2.5 mm jack socket tip positive
Audio Connections – 5 pin DIN socket RS232 – 25 pin 'D' socket

Recommended Tape Recorder Specifications

Tape Speed: 4 - 76 cm/s ±2%
Wow & Flutter: <±0.25%

Level Control: Automatic
Cassette Tape: High Quality, Low Noise C60 or less

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Your Distributor:

ELAN DIGITAL SYSTEMS LTD.

Cassette Interface Operating Instructions (Typically for Tandberg TPR101)

1. Connect mains supply (or batteries) to tape recorder.

2. Connect tape recorder audio input/output via DIN lead to Cassette Interface unit (Pins 1 – Audio Output, 2 – Common Gnd, 3 – Audio Input).

3. Connect to Cassette Interface unit via 25 pin 'D' type connectors:-

Cassette Interface

Function	Pin No
Receiver Input	3
Transmitter Output	2
Common OV	7
External Clock Output	15

4. Switch on all units.

5. To store data on tape:

   A) Select top quality C60 Cassette Tape – insert into machine.
   B) Set Cassette Interface to 'RECORD'.
   C) Set record level to 'AUTOMATIC', set tone control for max. treble gain, and start tape recorder in record state. Observe tape counter for reference.
   D) Record approximately a 5 second tape leader of continuous tone.
   E) Input required data. During record the tone will change rapidly until transmission has finished. Leave approximately a 5 second continuous tone trailer at the end of each recording.

6. To load data from tape:

   A) Load required cassette into tape recorder. Observing tape counter wind tape to approximately the start of required area of stored data.
   B) Set Cassette Interface to 'PLAYBACK'.
   C) Set receiving unit to be ready to input data, but do not complete the command until (D) below.
   D) Set cassette to play and observe continuous tone (adjust volume control for personal preference – this will not affect the playback). As soon as the tone is stable and before the leader runs out initiate the receiving unit command.

7. On completion of tape record or playback remember to switch off Cassette Interface unit.

Notes:
a) The LED gives an indication of the battery level. When the LED fails to light the batteries must be changed.
b) For operation at the highest baud rate or for greater data transfer integrity the interface External Clock Output (which may be preset to 2400, 1200 or 600 baud) may be used to clock the UART in the transmitting/receiving system.