C E M 5 5 3 Ø

---

30 CHANNEL SAMPLE & HOLD

Preliminary, November 1985

Description

The CEM 5530 is a 30 channel multiplexed Sample and Hold intended
for generating multiple system control voltages or moderate speed
multiplexed digital audio. Containing an auto zeroing op amp,
analog multiplexer, 5 bit decoder, and 30 individual Sample and
Holds capable of settling to 12 bits in under 1.5 uS, the 5530
can sample a voltage from a DAC into any one of its 30 outputs
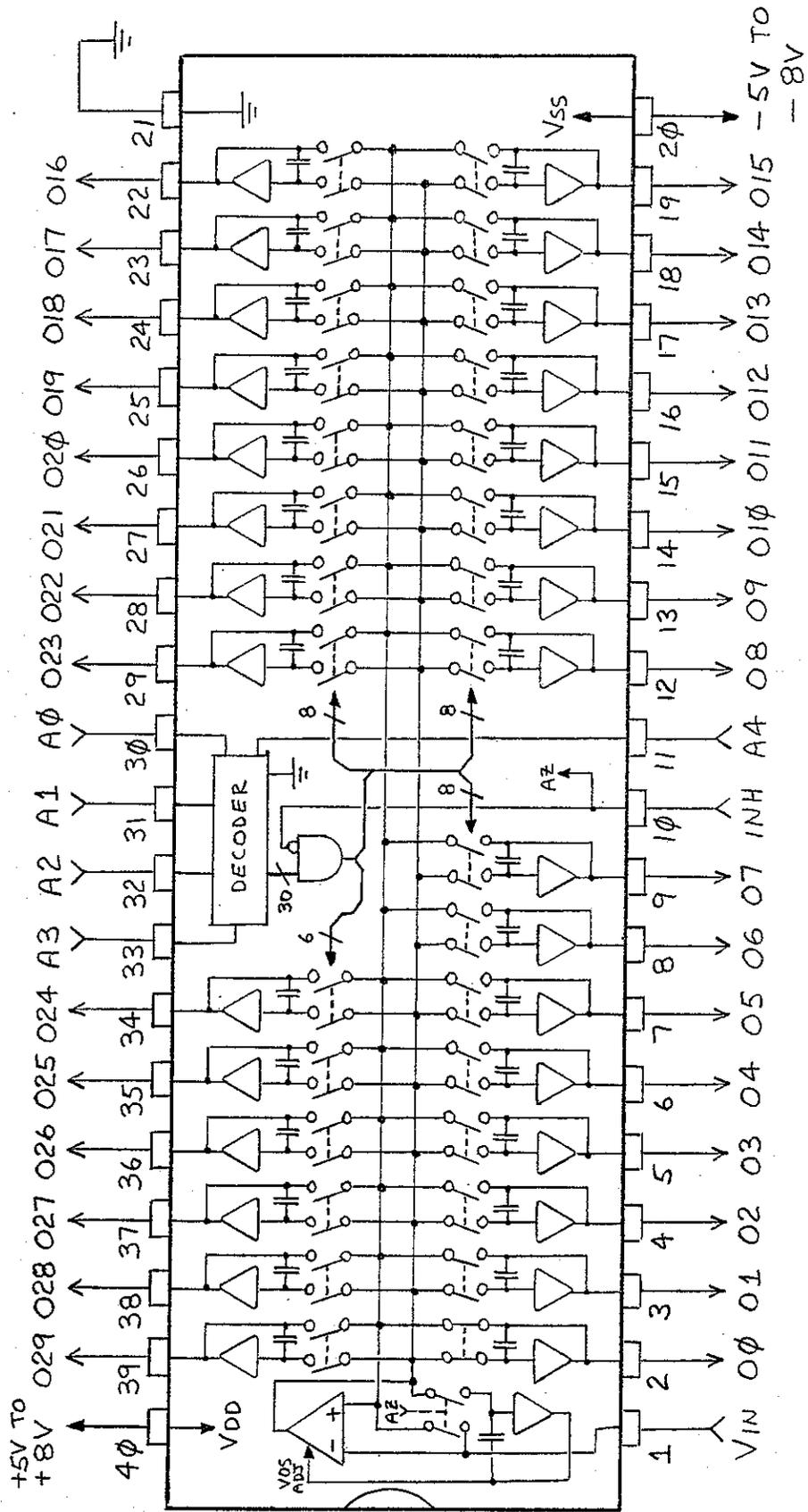with less than 2 mV error from -5 to +5 volts.

Operation of the 5530 is straightforward: Bringing INH high puts
all channels in the hold mode and causes the input op amp to auto
zero. The DAC data and channel address are then changed, and
while the DAC and decoder are settling, input offset is being
nulled out. Finally, INH is brought low again to sample the
input voltage into the addressed channel. As the auto zeroing
process requires a minimum of 1.5 uS, every channel can be
updated with full accuracy in less than 3 uS.

Each channel output can swing to within 2.5 volts of either
supply, allowing -5 to +5 volt outputs with +/-7.5 volt supplies,
or -2.5 to +2.5 volt outputs with +/-5 volt supplies. Ease of
use is further enhanced with outputs which can handle moderate
capacitive loading with little degradation in performance, and
CMOS logic inputs which are TTL compatible regardless of
supplies.

With all hold capacitors on-chip and requiring no external
components, the CEM 5530 makes interface between microprocessor
and voltage controlled devices exceptionally simple and
economical.

Features

o   3Ø Sample & Holds in a single 4Ø pin DIP

o   12 bit accuracy

o   16 bit linearity

o   Acquisition to 12 bits in < 1.5 uS

o   On-chip auto zeroing of input offset

o   Low droop: 1 mV/mS max.

o   Hold capacitors on-chip

o   Supply independent TTL compatible CMOS inputs

o   Large outputs: 1ØV with 15V supply

o   Can handle capacitive loading without degrading performance

CEM 5530   3∅ CHANNEL SAMPLE & HOLD