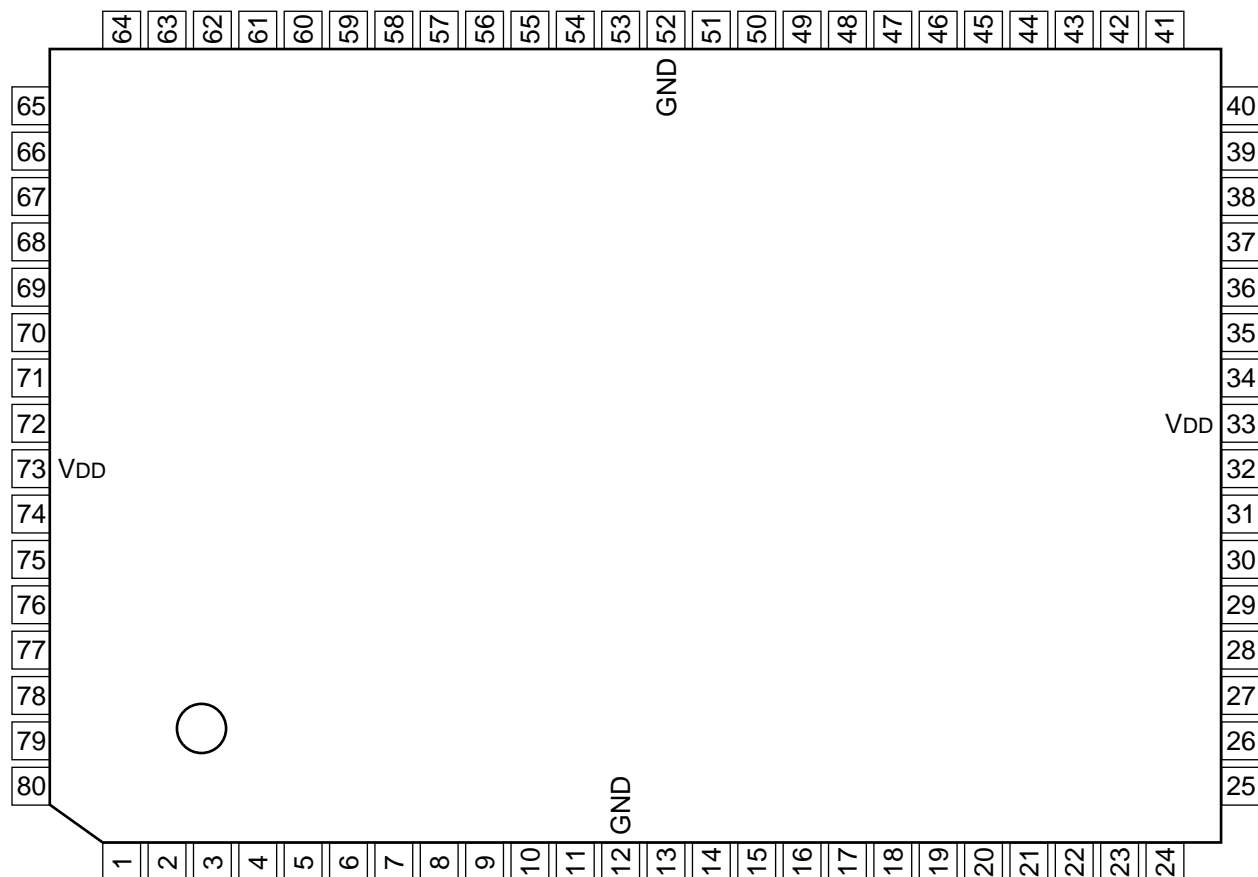
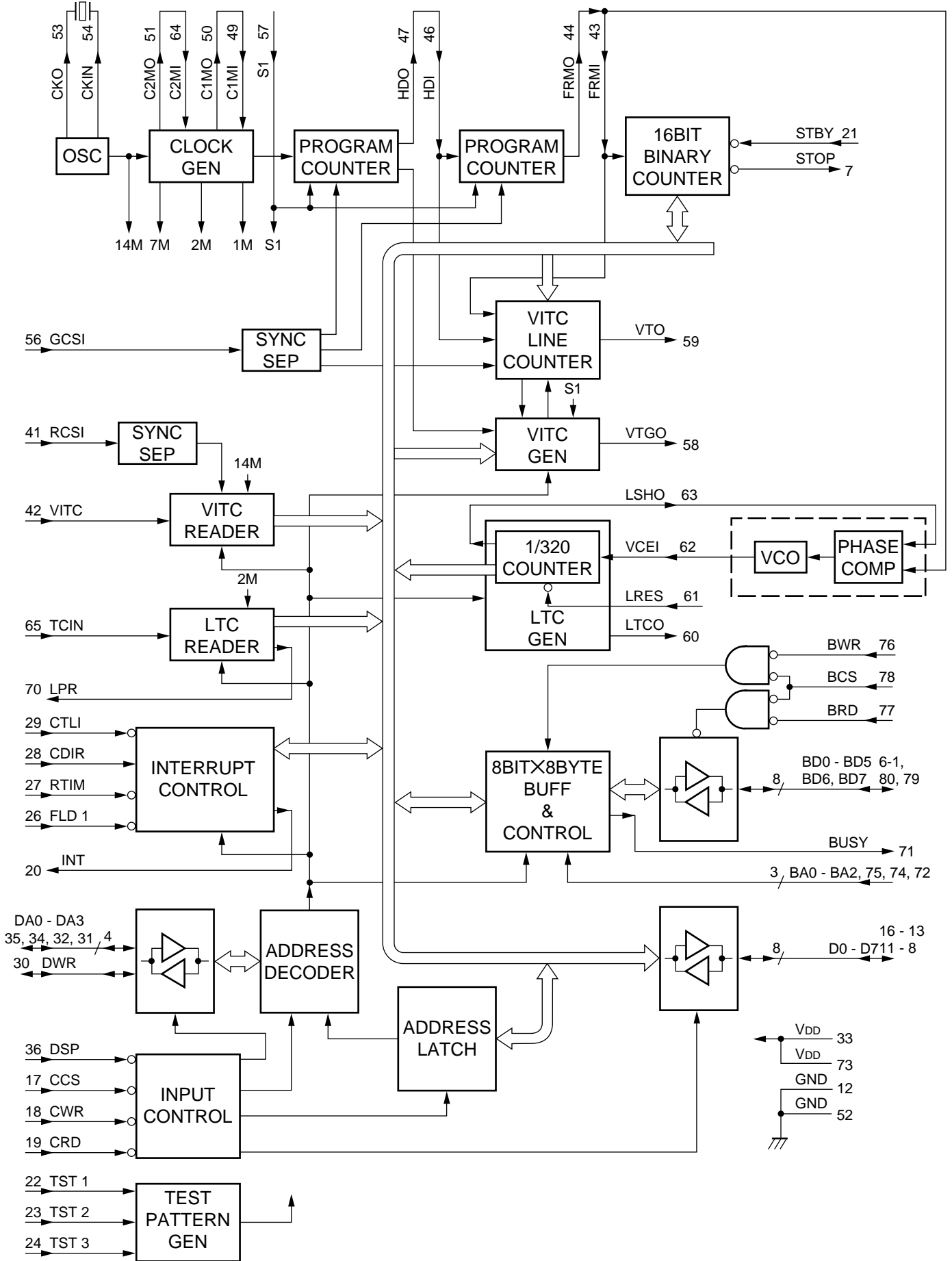


C-MOS TIME CODE GENERATOR / READER

—TOP VIEW—



| PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL |
|---------|-----|--------|---------|-----|--------|---------|-----|--------|---------|-----|--------|---------|-----|--------|
| 1 | I/O | DB5 | 17 | I | CCS | 33 | — | VDD | 49 | I | C1MI | 65 | I | TCIN |
| 2 | I/O | DB4 | 18 | I | CWR | 34 | I/O | DA1 | 50 | O | C1MO | 66 | O | DCLK |
| 3 | I/O | DB3 | 19 | I | CRD | 35 | I/O | DA0 | 51 | O | C2MO | 67 | O | DATA |
| 4 | I/O | DB2 | 20 | O | INT | 36 | I | DSP | 52 | — | GND | 68 | O | RFLD |
| 5 | I/O | DB1 | 21 | I | STBY | 37 | O | DTSE | 53 | O | CKO | 69 | O | RDSY |
| 6 | I/O | DB0 | 22 | I | TST1 | 38 | O | VRCK | 54 | I | CKIN | 70 | O | LRP |
| 7 | O | STOP | 23 | I | TST2 | 39 | I | SLLM | 55 | I | SLCK | 71 | O | BUSY |
| 8 | I/O | D7 | 24 | I | TST3 | 40 | O | RVDO | 56 | I | GCSI | 72 | I | BA2 |
| 9 | I/O | D6 | 25 | I | PON | 41 | I | RCSI | 57 | I | S1 | 73 | — | VDD |
| 10 | I/O | D5 | 26 | I | FLD1 | 42 | I | VITC | 58 | O | VTGO | 74 | I | BA1 |
| 11 | I/O | D4 | 27 | I | RTIM | 43 | I | FRMI | 59 | O | VTO | 75 | I | BA0 |
| 12 | — | GND | 28 | I | CDIR | 44 | O | FRMO | 60 | O | LTGO | 76 | I | BWR |
| 13 | I/O | D3 | 29 | I | CTLI | 45 | O | GLSY | 61 | I | LRES | 77 | I | BRD |
| 14 | I/O | D2 | 30 | I/O | DWR | 46 | I | HDI | 62 | I | VCEI | 78 | I | BCS |
| 15 | I/O | D1 | 31 | I/O | DA3 | 47 | O | HDO | 63 | O | LSHO | 79 | I/O | BD7 |
| 16 | I/O | D0 | 32 | I/O | DA2 | 48 | O | VDO | 64 | I | C2MI | 80 | I/O | BD6 |



SIGNAL DESCRIPTION

| | |
|-----------|--|
| BA0 - BA2 | B ADDRESS INPUTS |
| BCS | B CHIP ENABLE INPUT ("L" : ENABLE) |
| BD0 - BD7 | B DATA I/O |
| BRD | B READ INPUT ("L" : READ) |
| BUSY | B BUSY OUTPUT |
| BWR | B WRITE INPUT ("L" : WRITE) |
| C1MI | SYSTEM CLOCK INPUT |
| C1MO | CLOCK 1 OUTPUT (CKIN × 1/16) |
| C2MI | LTC READ CLOCK INPUT |
| C2MO | CLOCK 2 OUTPUT (CKIN × 1/8) |
| CCS | C CHIP ENABLE INPUT ("L" : ENABLE) (when DSP is low) ADDRESS LATCH ENABLE INPUT ("L" : ENABLE) (when DSP is high) |
| CDIR | CTL DIRECTION INPUT |
| CKIN | SYSTEM CLOCK INPUT |

| VIDEO SIGNAL FORMAT | CKIN |
|------------------------|------------|
| SMPTE 29.97 Hz 525LINE | 14.318 MHz |
| EBU 25 Hz 625LINE | 14.500 MHz |

| | |
|-----------|--|
| CKO | CLOCK OUTPUT |
| CRD | C READ INPUT ("L" : READ) |
| CTLI | CTL SIGNAL INPUT |
| CWR | C WRITE INPUT ("L" : WRITE) |
| D0 - D7 | DATA I/O (when DSP is low)/ ADDRESS INPUTS |
| DA0 - DA3 | E ADDRESS INPUTS (when DSP is high) D ADDRESS OUTPUT (when DSP is low) |
| DATA | DEMODULATED SERIAL DATA OUTPUT |
| DCLK | DEMODULATED CLOCK OUTPUT |
| DSP | DISPLAY BUS SELECT INPUT DSP controls CCS, DA0-DA3 and DVR. |
| DTSE | VITC DATA SEARCH FLAG OUTPUT |
| DWR | WRITE ENABLE OUTPUT ("L" : ENABLE) (when DSP is low) E ADDRESS 4 INPUT (when DSP is high) |
| EA4 | ADDRESS BUS INPUT |
| FLD1 | FIELD REFERENCE INPUT ("L" : FILD 1) |
| FRMI | FRAME SIGNAL INPUT |
| FRMO | FRAME SIGNAL OUTPUT |
| GCSI | COMPOSITE SYNC INPUT |
| GLSY | LOST SYNC FLAG OUTPUT |
| HDI | HORIZONTAL SYNC INPUT |
| HDO | HORIZONTAL SYNC OUTPUT |
| INT | ITERRUPT REQUEST OUTPUT |
| LPR | LTC READ REQUEST OUTPUT |
| LRES | LTC COUNTER RESET INPUT ("L" : RESET) |
| LSHO | SYNCHRONOUS SIGNAL OUTPUT |
| LTCO | LTC SIGNAL OUTPUT |
| PON | SYSTEM RESET INPUT ("L" : PON) |
| RCSI | COMPOSITE SYNC INPUT |
| RDSY | READ SYNC WORD DATA OUTPUT |
| RESS | RESET INPUT ("L" : RTIM) |
| RFLD | FIELD DATA OUTPUT |
| RTIM | TIME ADDRESS RESET INPUT ("L" : RESET) |
| RVDO | VITC READ DATA OUTPUT |

S1 SIGNAL FORMAT SELECT INPUT
 "H" : NTSC/PAL-M 29.94Hz 525LINE
 "L" : PAL/SECAM 25Hz 625LINE

SLCK SELECT CLOCK INPUT

| SLCK | "L" | | "H" | |
|------|------------|----------|-----------|----------|
| CKIN | 14.318 MHz | 14.5 MHz | 7.159 MHz | 7.25 MHz |
| SPEC | SMPTE | EBU | SMPTE | EBU |

SLLM READ SIZE SELECT INPUT
 STBY STANDBY READ FLAG INPUT
 STOP STOP OUTPUT ("L" : STOP)
 TCIN LONGITUDINAL TIME AND CONTROL CODE INPUT
 TST1 - TST3 TEST INPUTS
 VCEI LTC CLOCK INPUT
 VDO HORIZONTAL SYNC DRIVE OUTPUT
 VITC VITC SIGNAL INPUT
 VTGO VITC GATE SIGNAL OUTPUT
 VTO VITC SIGNAL OUTPUT ("H" : VITC)