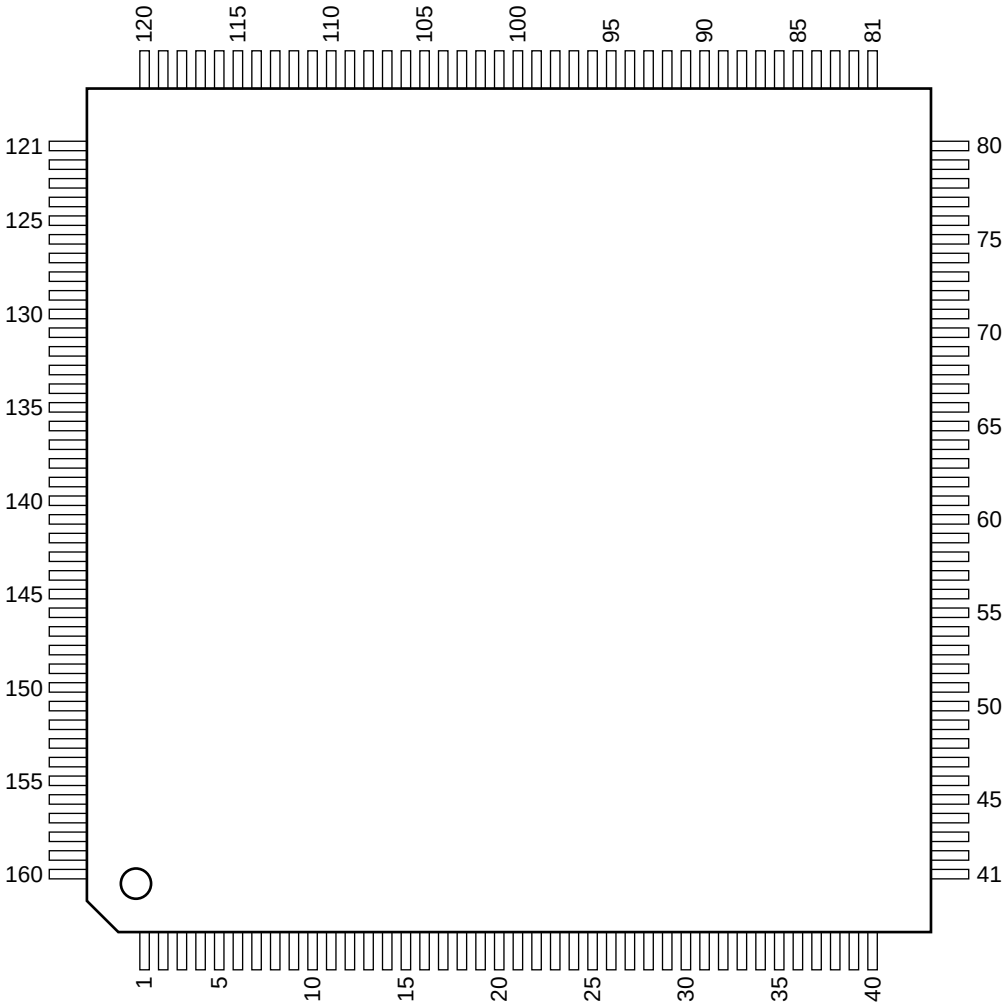
NTSC/PAL TO RGB/YCrCb DECODER

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	—	Vcc2	41	—	Vcc2	81	—	Vcc2	121	—	Vcc2
2	—	Vcc2	42	—	Vcc2	82	—	Vcc2	122	—	Vcc2
3	I	YREF–	43	—	Vcc2	83	I	$\overline{WR}$	123	—	Vcc2
4	I	Y/COMPOSITE	44	—	GND	84	I	RS0	124	—	A.GND
5	—	A.GND	45	—	Vcc1	85	I	RS1	125	I	VID0 C
6	O	VOUT Y	46	I	$\overline{VTU\ EN}$	86	I	$\overline{RD}$	126	—	A.GND
7	I	YLEVEL	47	I	$\overline{PIXEL\ EN}$	87	I	$\overline{RESET}$	127	I	VID1 C
8	—	T15	48	O	B7	88	I	TDI	128	—	A.GND
9	—	T14	49	O	B6	89	I	TMS	129	I	VID2 C
10	—	T13	50	O	B5	90	I	TCLK	130	—	GND
11	—	T12	51	O	B4	91	—	Vcc1	131	I	VID3 C
12	—	T11	52	O	B3	92	I/O	D0	132	—	Vcc2
13	—	T10	53	O	B2	93	I/O	D1	133	—	NC
14	—	T9	54	O	B1	94	I/O	D2	134	—	A.GND
15	—	T8	55	O	B0	95	I/O	D3	135	O	R/2
16	—	GND	56	—	GND	96	I/O	D4	136	—	A.GND
17	—	T7	57	—	Vcc1	97	I/O	D5	137	I	CREF+
18	—	T6	58	O	R7	98	—	GND	138	—	A.GND
19	—	T5	59	O	R6	99	I/O	D6	139	—	A.GND
20	—	T4	60	O	R5	100	I/O	D7	140	I	SYNC DET
21	—	T3	61	O	R4	101	O	TDO	141	—	Vcc2
22	—	T2	62	O	R3	102	—	Vcc1	142	—	Vcc2
23	—	T1	63	O	R2	103	—	GND	143	—	A.GND
24	—	T0	64	O	R1	104	O	CLOCK×1	144	I	YREF+
25	O	FIELD 1	65	O	R0	105	O	CLOCK×2	145	—	A.GND
26	O	FIELD 0	66	—	GND	106	I	XTAL2 IN	146	—	NC
27	O	FIELD EVEN	67	O	G7	107	I	XTAL2 OUT	147	—	A.GND
28	O	$\overline{CbFLAG}$	68	O	G6	108	I	XTAL1 IN	148	—	NC
29	O	VALID	69	O	G5	109	I	XTAL1 OUT	149	—	Vcc2
30	—	GND	70	O	G4	110	O	AGC	150	I	VID3 Y
31	—	Vcc1	71	O	G3	111	—	GND	151	—	A.GND
32	O	ACTIVE	72	O	G2	112	—	Vcc1	152	I	VID2 Y
33	O	$\overline{VACTIVE}$	73	O	G1	113	O	REFOUT	153	—	A.GND
34	O	$\overline{VRESET}$	74	O	G0	114	I	CLEVEL	154	I	VID1 Y
35	O	$\overline{HACTIVE}$	75	—	GND	115	O	VOUT C	155	—	A.GND
36	O	$\overline{HRESET}$	76	—	Vcc1	116	—	A.GND	156	I	VID0 Y
37	O	SERROR	77	—	NC	117	I	C	157	—	A.GND
38	O	CAPTURE	78	—	Vcc2	118	I	CREF–	158	—	Vcc2
39	—	Vcc2	79	—	Vcc2	119	—	Vcc2	159	—	Vcc2
40	—	Vcc2	80	—	Vcc2	120	—	Vcc2	160	—	Vcc2

INPUTS

C	:	ANALOG CHROMA
CLEVEL	:	CHROMA LEVEL
CREF+, CREF–	:	REFERENCE LADDER
$\overline{\text{PIXEL EN}}$	:	PIXEL OUTPUT ENABLE
$\overline{\text{RD}}$	:	READ CONTROL
$\overline{\text{RESET}}$	:	RESET
RS0, RS1	:	ADDRESS CONTROL
SYNC DET	:	SYNC STRIPPER
TCLK	:	TEST CLOCK
TDI	:	TEST DATA
TMS	:	TEST MODE SELECT
VID0 C - VID3 C	:	ANALOG VIDEO
VID0 Y - VID3 Y	:	ANALOG VIDEO
$\overline{\text{VTU EN}}$	:	VIDEO TIMING ENABLE
$\overline{\text{WR}}$	:	WRITE CONTROL
XTAL1 IN, XTAL1 OUT	:	CRYSTAL 1
XTAL2 IN, XTAL2 OUT	:	CRYSTAL 2
Y/COMPOSITE	:	ANALOG VIDEO
YLEVEL	:	Y LEVEL
YREF+, YREF–	:	REFERENCE LADDER

OUTPUTS

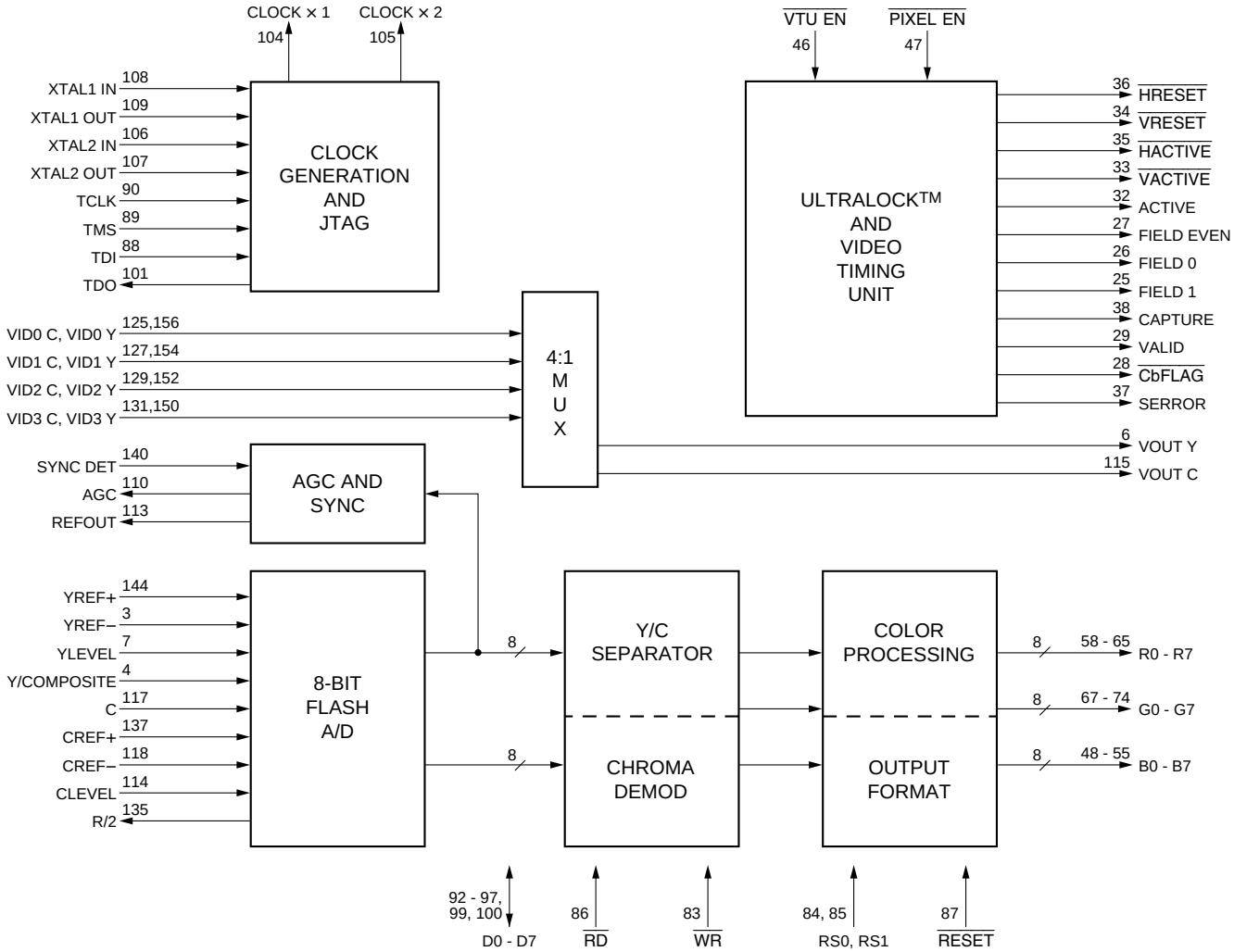
ACTIVE	:	COMPOSITE ACTIVE
AGC	:	AUTOMATIC GAIN CONTROL
B0 - B7	:	DIGITIZED VIDEO DATA
CAPTURE	:	CAPTURE CONTROL
$\overline{\text{CbFLAG}}$	:	Cb INDICATOR
CLOCK × 1,CLOCK × 2	:	CLOCK
FIELD 0, FIELD 1, FIELD EVEN	:	FIELD
G0 - G7	:	DIGITIZED VIDEO DATA
$\overline{\text{HACTIVE}}$	:	HORIZONTAL BLANKING
$\overline{\text{HRESET}}$	:	HORIZONTAL TIMING
R/2	:	REFERENCE LADDER
R0 - R7	:	DIGITIZED VIDEO DATA
REFOUT	:	REFERENCE
SERROR	:	PHASE INFORMATION
TDO	:	TEST DATA
$\overline{\text{VACTIVE}}$	:	VERTICAL BLANKING
VALID	:	VALID PIXEL
VOUT C, VOUT Y	:	ANALOG VIDEO
$\overline{\text{VRESET}}$	:	VERTICAL TIMING

INPUTS/OUTPUTS

D0 - D7	:	DATA

OTHERS

T0 - T15	:	RESERVED


CLOCK × 1
104
CLOCK × 2
105
XTAL1 IN 108
XTAL1 OUT 109
XTAL2 IN 106
XTAL2 OUT 107
TCLK 90
TMS 89
TDI 88
TDO 101
CLOCK GENERATION AND JTAG
VTU EN
46
PIXEL EN
47
ULTRALOCK™ AND VIDEO TIMING UNIT
36 HRESET
34 VRESET
35 HACTIVE
33 VACTIVE
32 ACTIVE
27 FIELD EVEN
26 FIELD 0
25 FIELD 1
38 CAPTURE
29 VALID
28 CbFLAG
37 SERROR
VID0 C, VID0 Y 125,156
VID1 C, VID1 Y 127,154
VID2 C, VID2 Y 129,152
VID3 C, VID3 Y 131,150
4:1 MUX
6 VOUT Y
115 VOUT C
SYNC DET 140
AGC 110
REFOUT 113
AGC AND SYNC
YREF+ 144
YREF– 3
YLEVEL 7
Y/COMPOSITE 4
C 117
CREF+ 137
CREF– 118
CLEVEL 114
R/2 135
8-BIT FLASH A/D
8
8
Y/C SEPARATOR
CHROMA DEMOD
COLOR PROCESSING
OUTPUT FORMAT
8 58 - 65 R0 - R7
8 67 - 74 G0 - G7
8 48 - 55 B0 - B7
92 - 97, 99, 100 D0 - D7
86 RD
83 WR
84, 85 RS0, RS1
87 RESET