

DCR-TRV5/TRV5E

RMT-808/809

SERVICE MANUAL

Self Diagnosis
Supported model

Handycam Vision™



C MECHANISM



Photo: DCR-TRV5E
RMT-809

Canadian Model
DCR-TRV5

AEP Model

UK Model

Hong Kong Model
DCR-TRV5E

E Model

Tourist Model
DCR-TRV5/TRV5E

NTSC model: DCR-TRV5
PAL model: DCR-TRV5E

For MECHANISM ADJUSTMENTS, refer to the "DV MECHANICAL ADJUSTMENT MANUAL IV **C MECHANISM**" (9-974-050-11)

SPECIFICATIONS

Video camera recorder

System

Video recording system

Two rotary heads, Helical scanning system

Audio recording system

Rotary heads, PCM system
Quantization: 12bits (Fs 32kHz, stereo 1, stereo 2), 16bits (Fs 48kHz, stereo)

Video signal

NTSC color, EIA standards (DCR-TRV5)

PAL colour, CCIR standards (DCR-TRV5E)

Usable cassette

Mini DV cassette with logo printed

Tape speed

SP: Approx. 18.81 mm/s

LP: Approx. 12.56 mm/s

Recording/playback time

SP mode: 1 hour (DVM60)

LP mode: 1.5 hours (DVM60)

Fastforward/rewind time

Approx. 2 min. 30 s (DVM60)

Image device

CCD (Charge Coupled Device 1/3")

Viewfinder

Electric viewfinder (colour)

Lens

Combined power zoom lens,
120x (Digital), 10x (Optical)
(DCR-TRV5)

40x (Digital), 10x (Optical)
(DCR-TRV5E)

Focal distance

f = 4.0 to 40 mm (3/16 to 2 1/8 in.)
(38 to 380 mm (1 1/2 to 15 in.)
when converted into a 35 mm still camera)

F 1.8 - 2.6

TTL autofocus system inner focus
wide macro system

Colour temperature

Auto

Minimum illumination

3 lux at F 1.8

Illumination range

3 to 100,000 lux

Recommended illumination

More than 100 lux

LCD screen

Picture

3.5 inches measured diagonally

72.4 x 50.4 mm (2 7/8 to 2 in.)

On-screen display

TN LCD/TFT active matrix method

Total dot number

184,580 (839 x 220)

Input and output connectors

S video output

4-pin mini DIN

Luminance signal: 1 Vp-p, 75 ohms,
unbalanced, sync negative

Chrominance signal:

0.286 Vp-p, 75 ohms, unbalanced
(DCR-TRV5)

0.3 Vp-p, 75 ohms, unbalanced
(DCR-TRV5E)

Audio/Video output

AV MINI JACK, 1 Vp-p, 75 ohms,
unbalanced, sync negative

327 mV, (at output impedance
more than 47 kilohms)

Output impedance with less than
2.2 kilohms/Stereo minijack
(ø 3.5 mm)

DV input/outout (DCR-TRV5)

DV output (DCR-TRV5E)

4-pin special connector

Headphones jack

Stereo mini jack (ø 3.5 mm)

MIC input

Stereo minijack (ø 3.5mm):0.388mV,
DC2.5V

Input impedance 6.8 kilohms

LANC jack

Stereo minijack (ø 2.5 mm)

LASER LINK

Video/audio

IR space transmission system
according to EIAJ (Electric
Industries Association of Japan)
standards

Audio carrier wave

Lch : 4.3MHz

Rch : 4.8MHz

General

Power requirements

7.2 V (battery insertion input)

Average power consumption

3.9 W during camera recording
using viewfinder

4.9 W during camera recording
using LCD screen

4.9 W during playback using
LASER LINK (when viewfinder is
on and LCD is off)

Operating temperature

0°C to 40°C (32°F to 104°F)

Storage temperature

-20°C to 60°C (-4°F to 140°F)

Dimensions

Approx. 76 x 82 x 136 mm (3 x 3 1/4
x 5 3/8 in.) (w/h/d) excluding the
largest projection

— Continued on next page —

Mini DV Digital
Video
Cassette

DIGITAL VIDEO CAMERA RECORDER

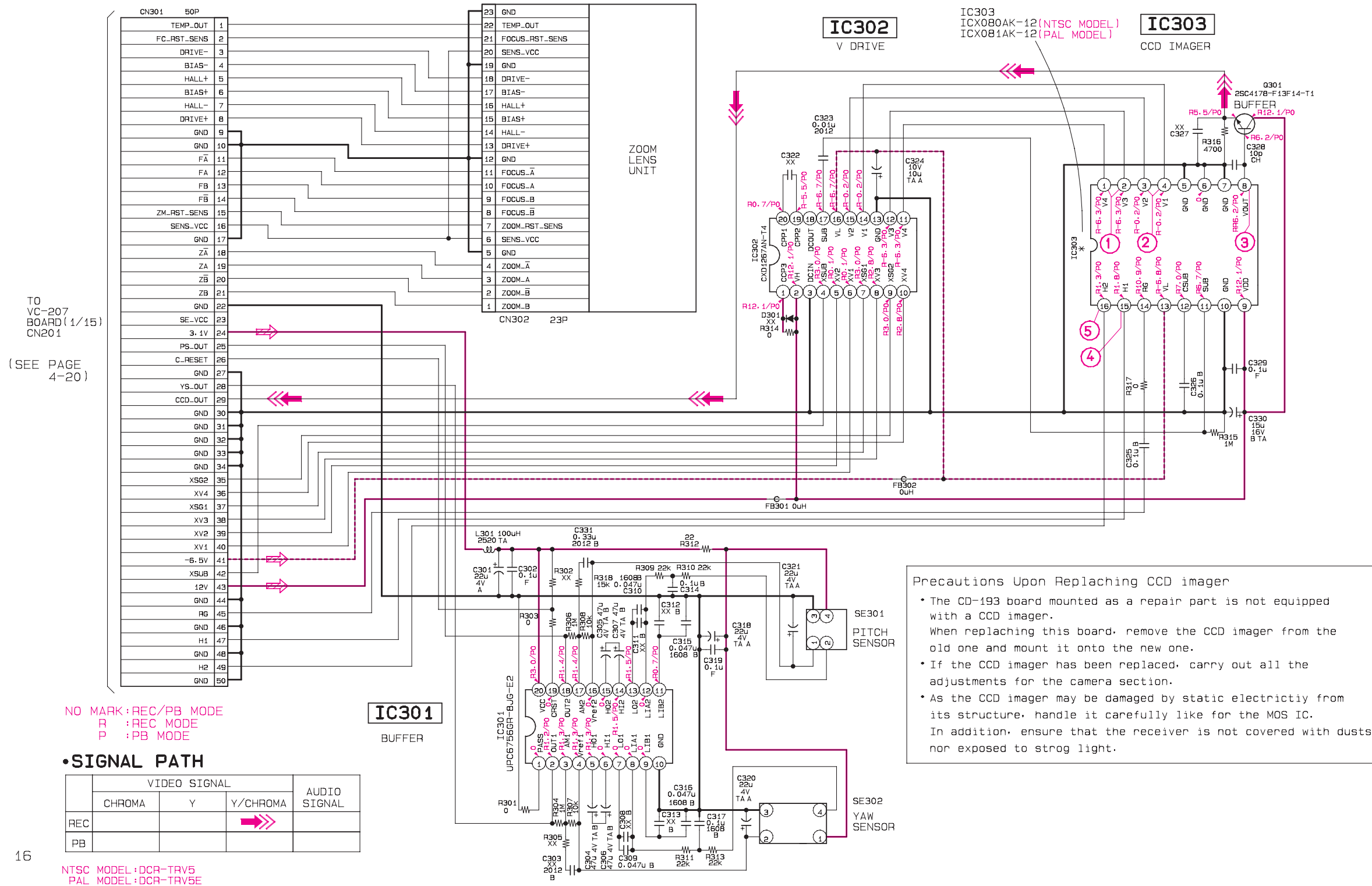


SONY®

CD-193 BOARD CCD IMAGER

-REF. NO. 10000 SERIES-
XX MARK: NO MOUNT

*ZOOM LENS UNIT is replaced as a block so that these SCHEMATIC DIAGRAM and PRINTED WIRING BOARD are omitted.



NO MARK: REC/PB MODE
R : REC MODE
P : PB MODE

•SIGNAL PATH

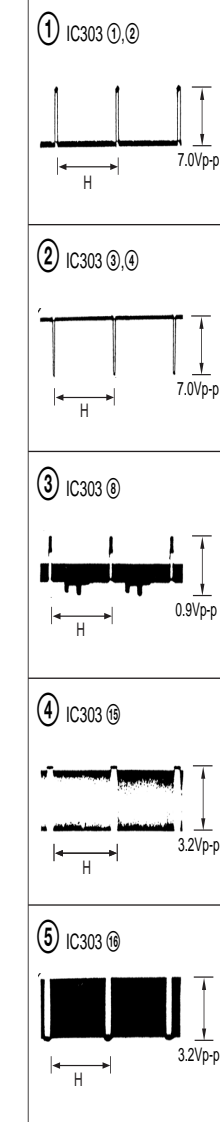
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			→→→	
PB				

NTSC MODEL: DCR-TRV5
PAL MODEL: DCR-TRV5E

Precautions Upon Replacing CCD imager

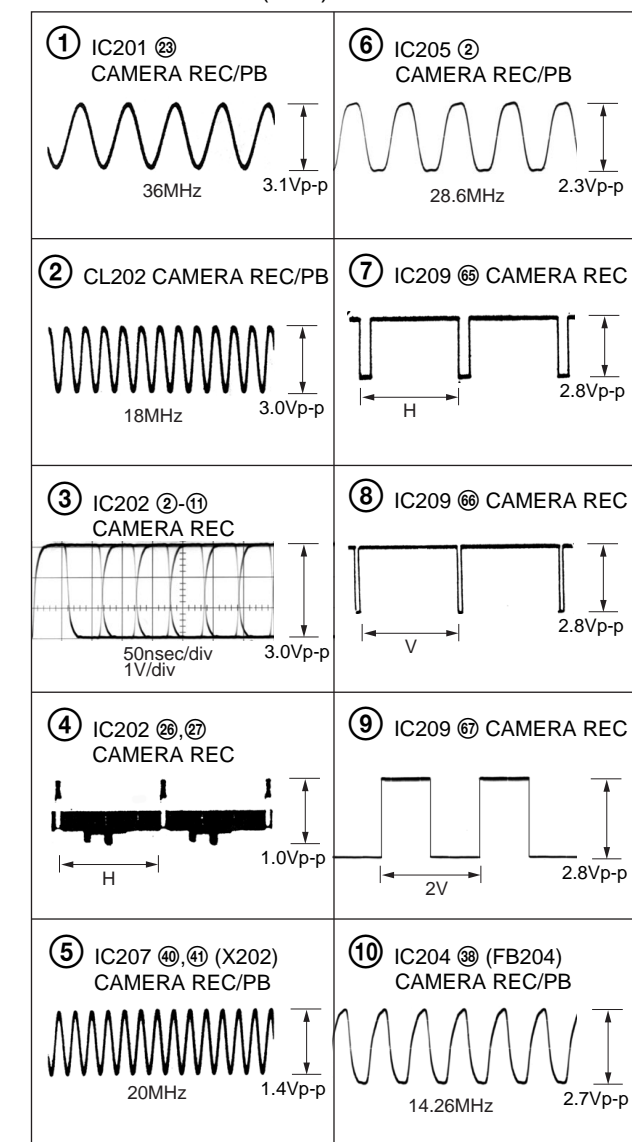
- The CD-193 board mounted as a repair part is not equipped with a CCD imager. When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC. In addition, ensure that the receiver is not covered with dusts nor exposed to strog light.

CD-193 BOARD CAMERA REC



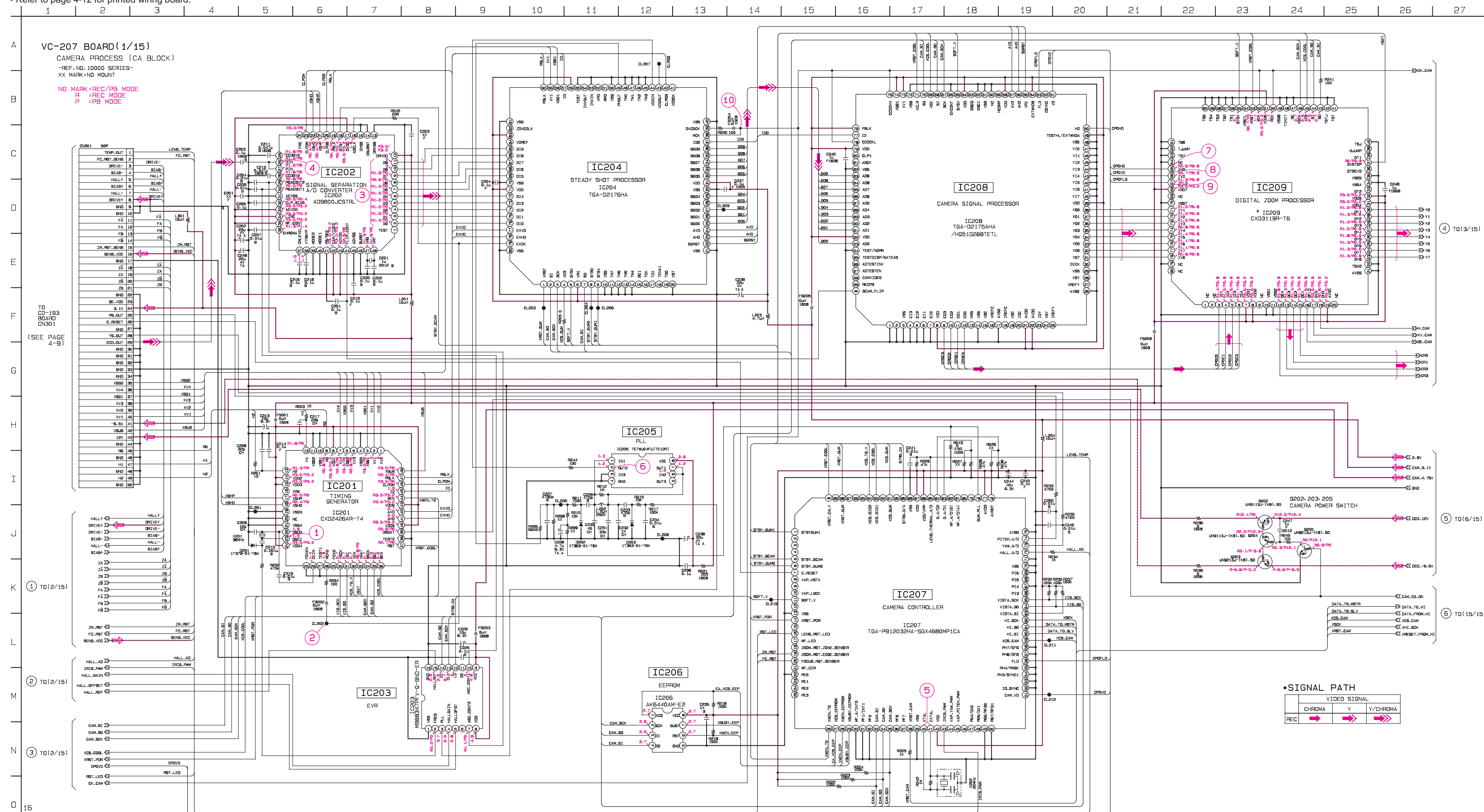
CCD IMAGER CD-193

VC-207 BOARD (1/15)

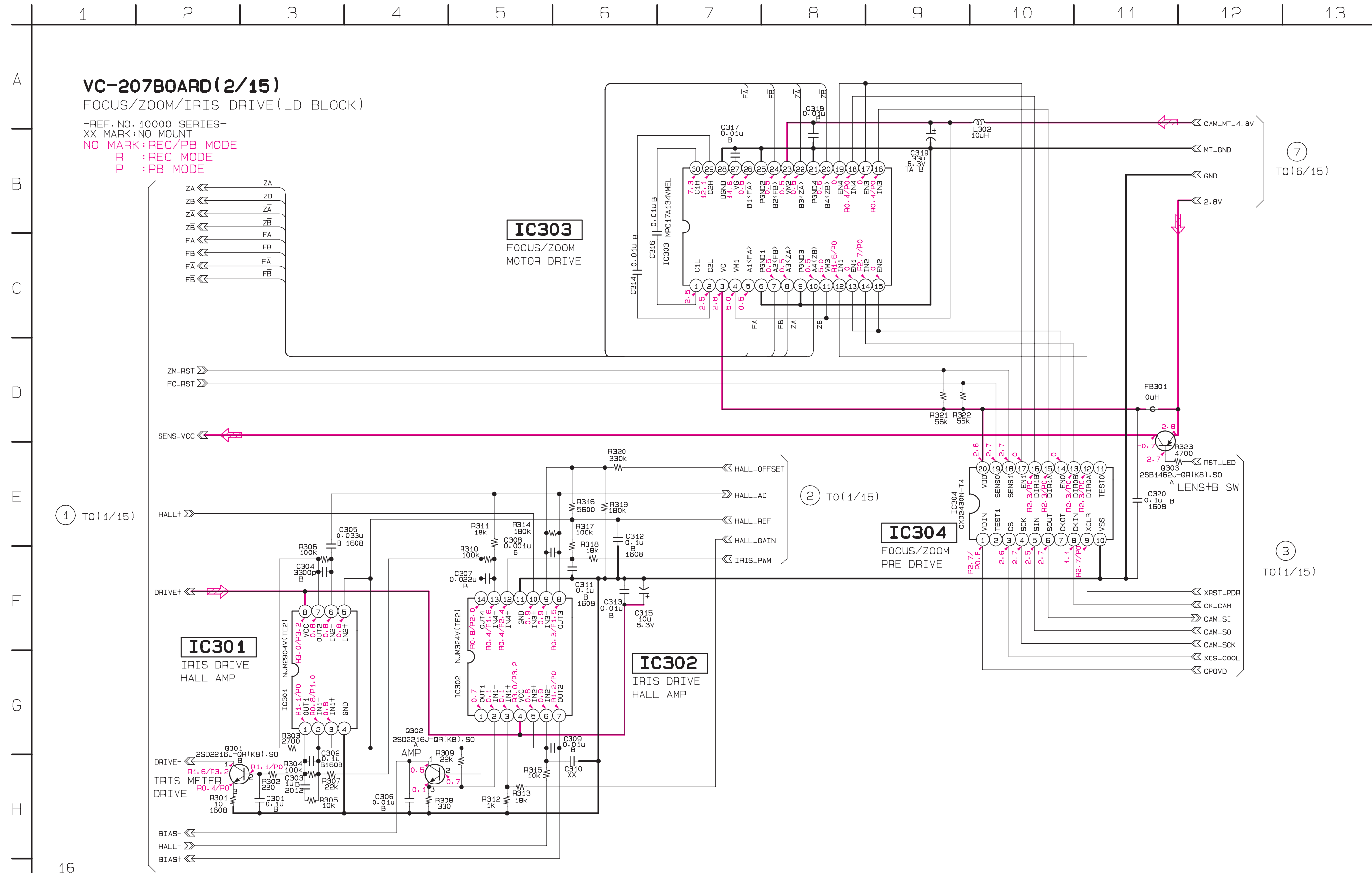


CAMERA PROCESS
VC-207 (1/15)

For Schematic Diagram
• Refer to page 4-12 for printed wiring board.

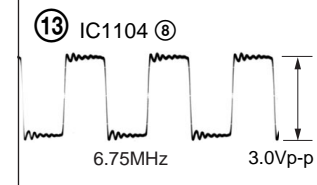
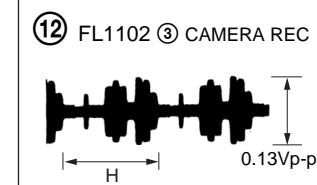
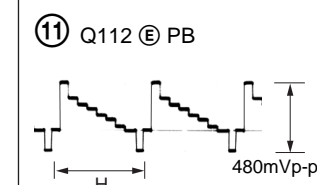
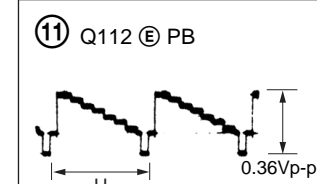
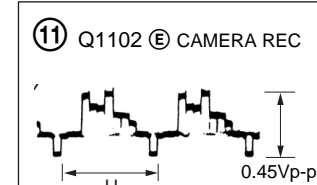


For Schematic Diagram
 • Refer to page 4-12 for printed wiring board.

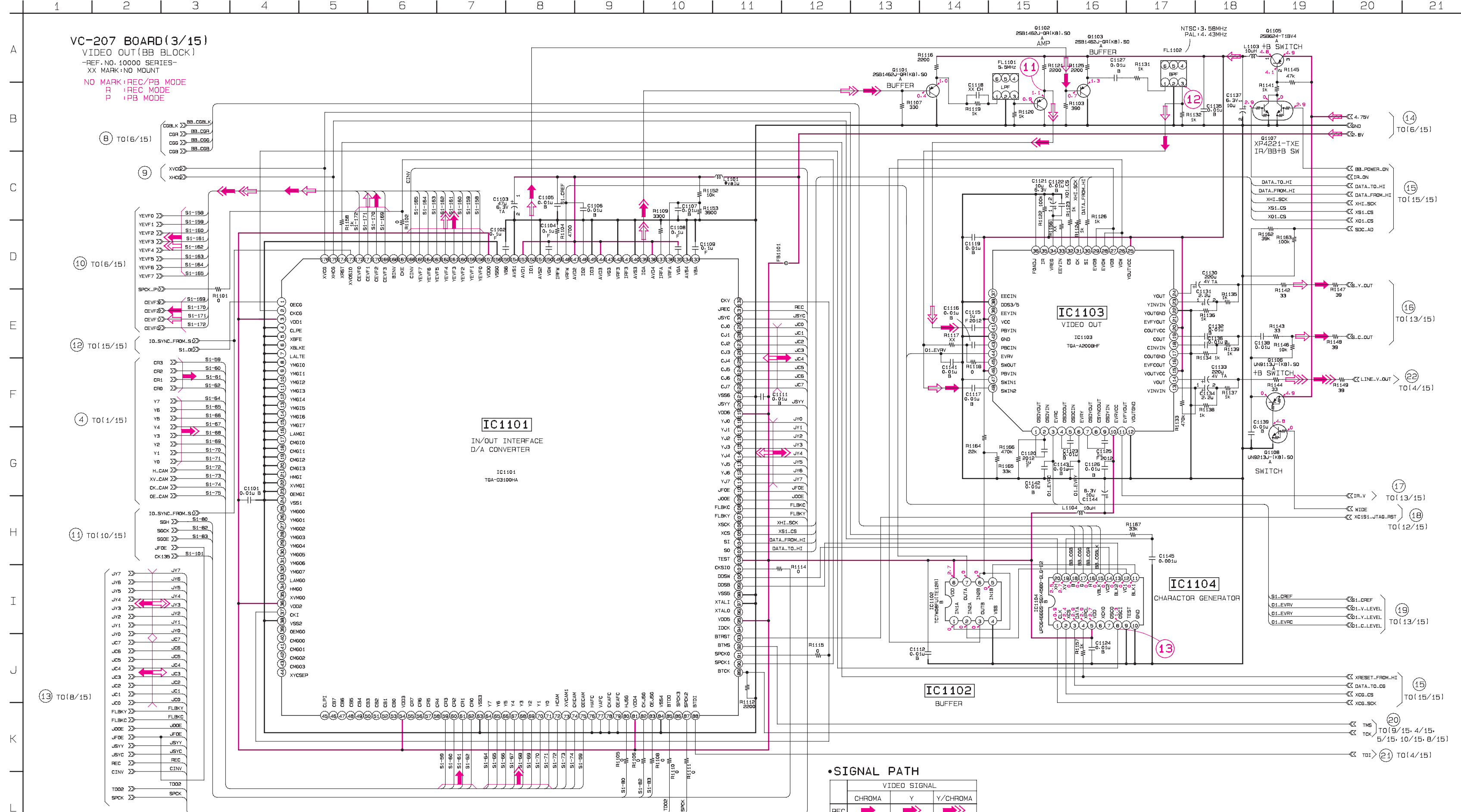


16

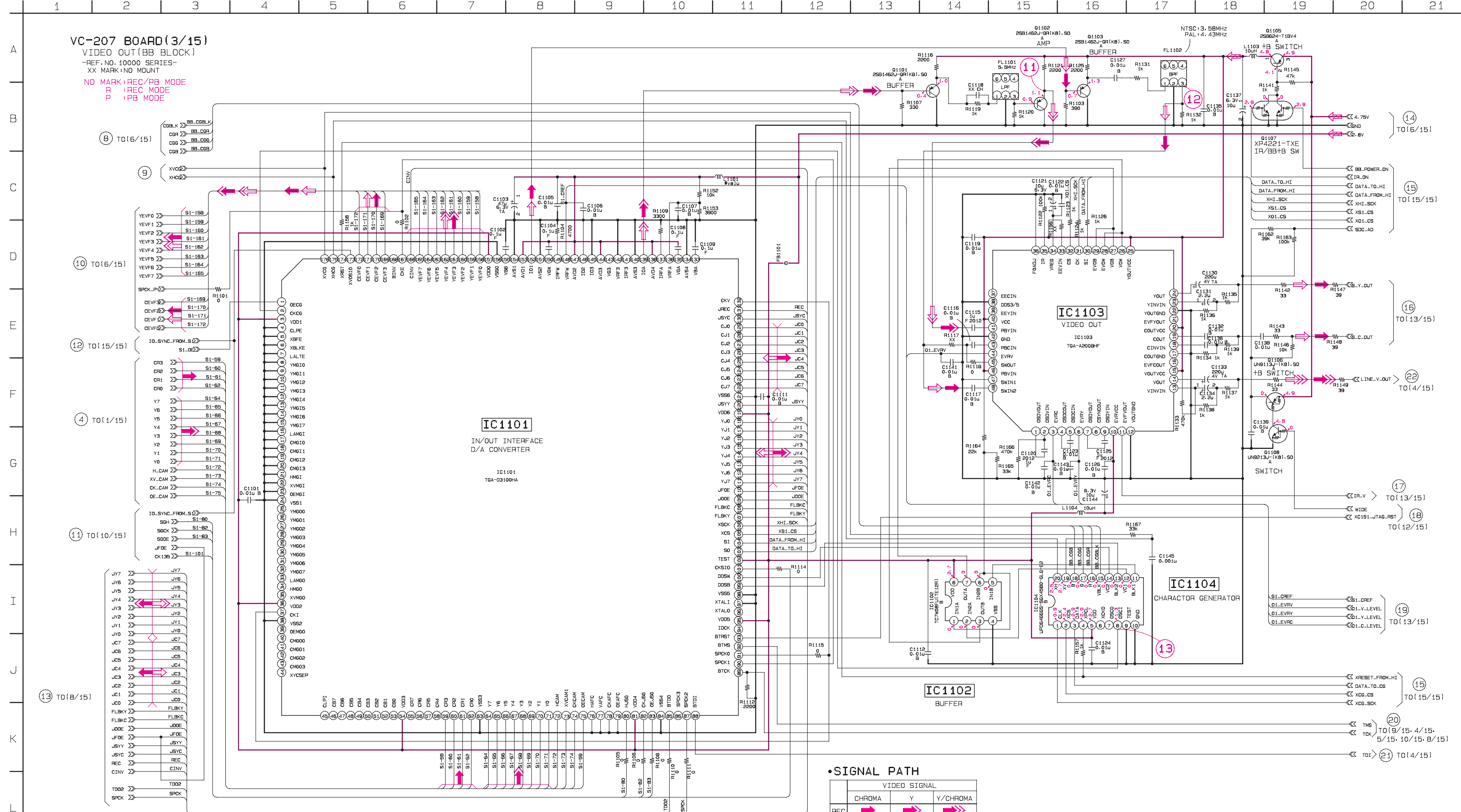
VC-207 BOARD (3/15)
CAMERA REC/PB



For Schematic Diagram
• Refer to page 4-12 for printed wiring board.



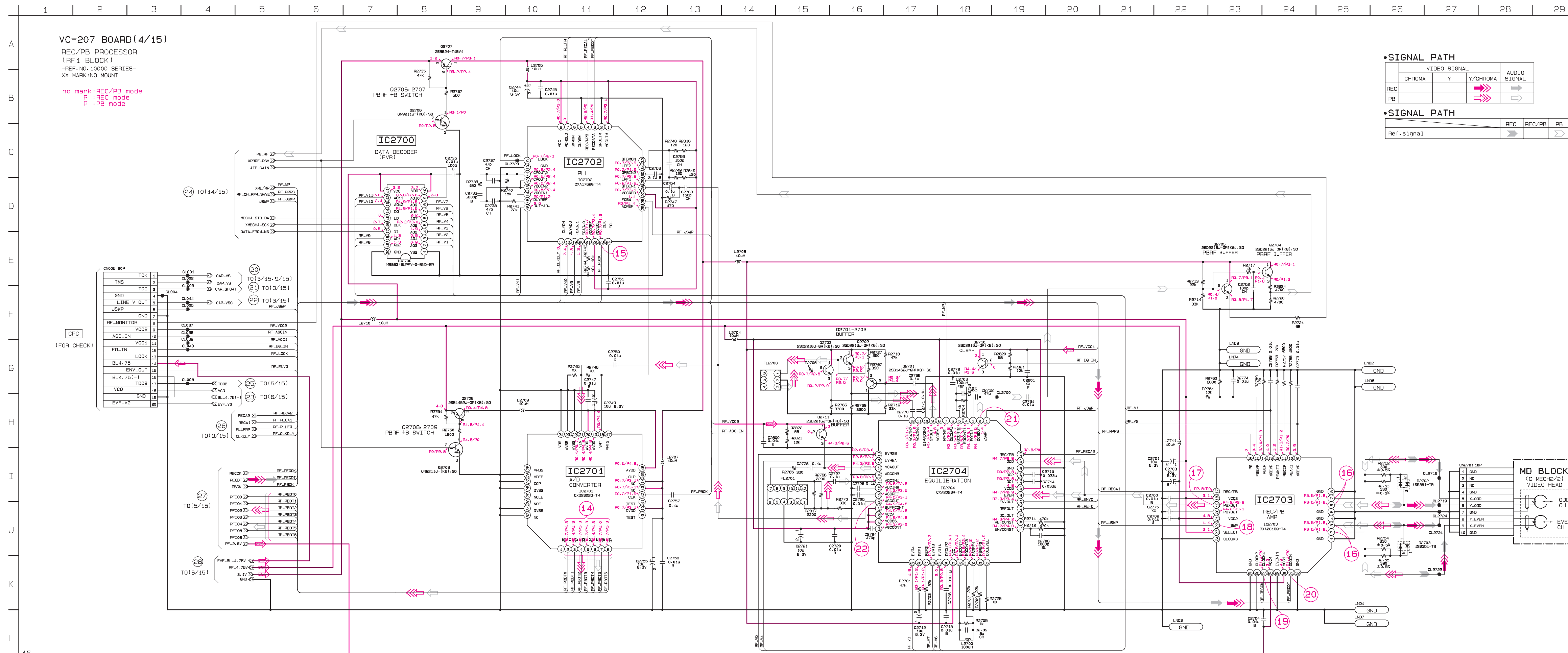
VC-207 BOARD (3/15)
VIDEO OUT (BB BLOCK)
-REF. NO. 10000 SERIES-
XX MARK: NO MOUNT
NO MARK: REC/PB MODE
R : REC MODE
P : PB MODE



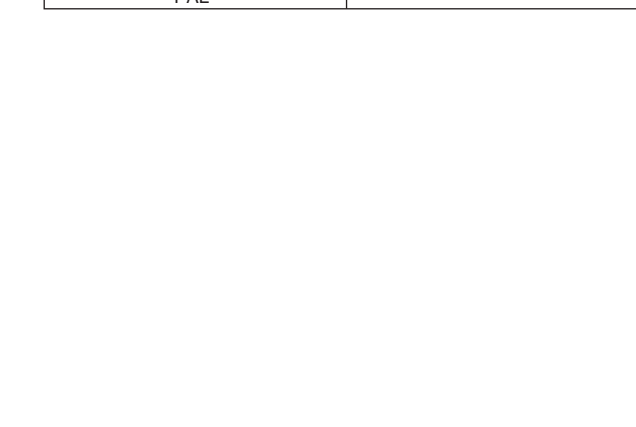
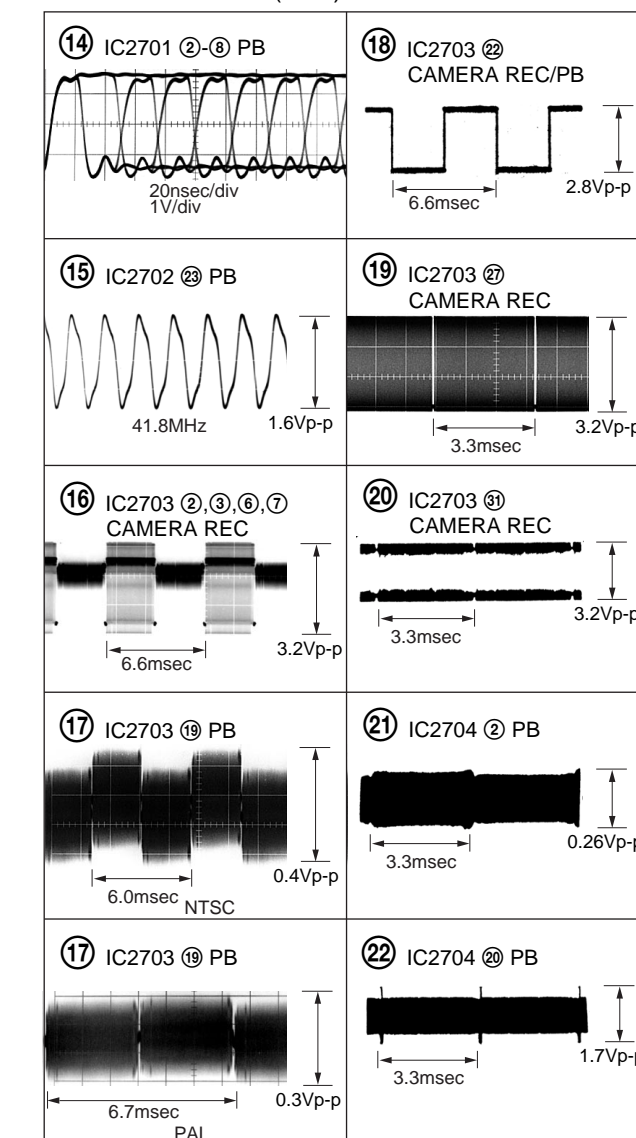
• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	→	→	→
PB	→	→	→

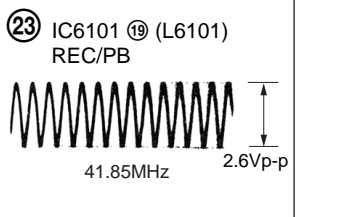
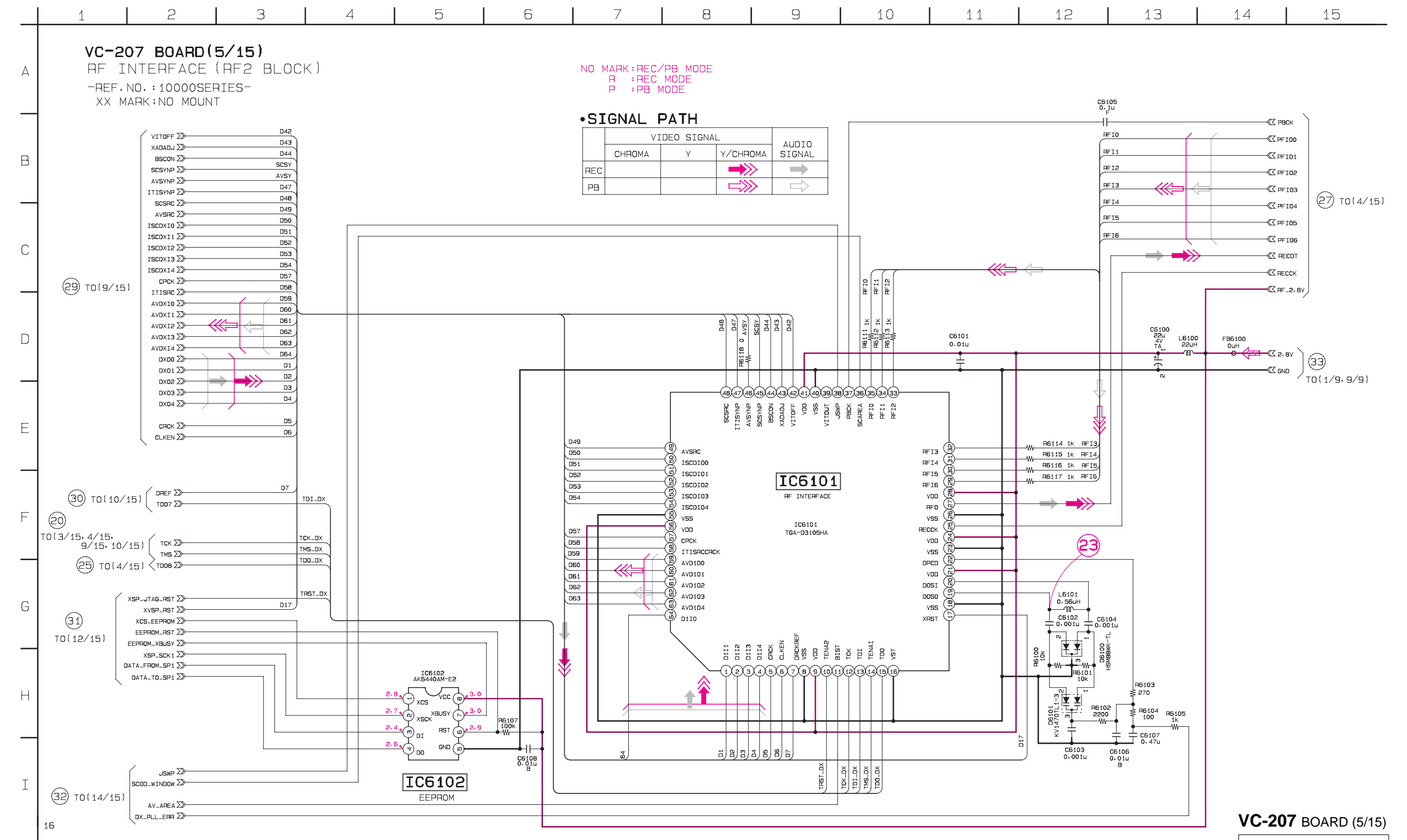
For Schematic Diagram
 • Refer to page 4-12 for printed wiring board.



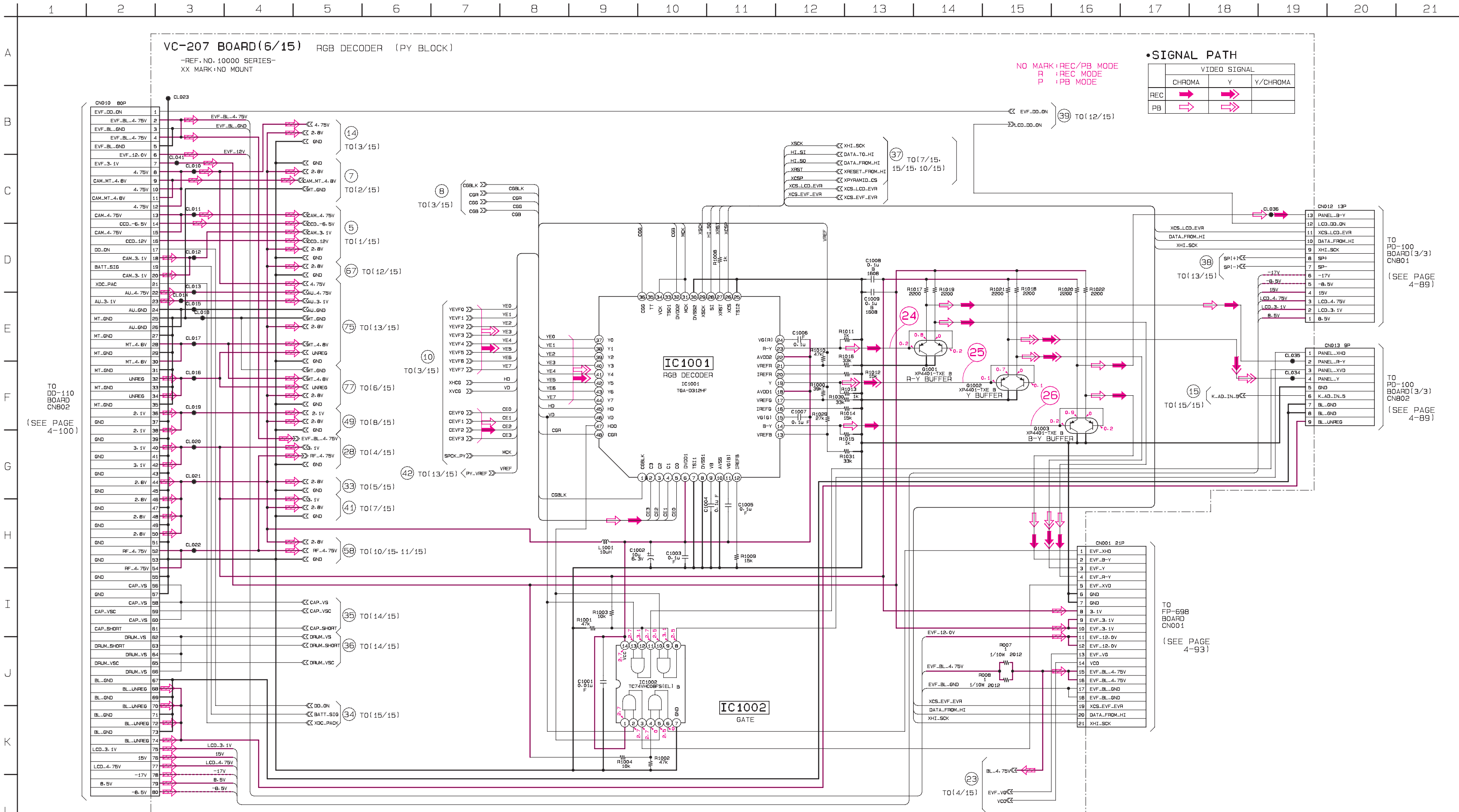
VC-207 BOARD (4/15)



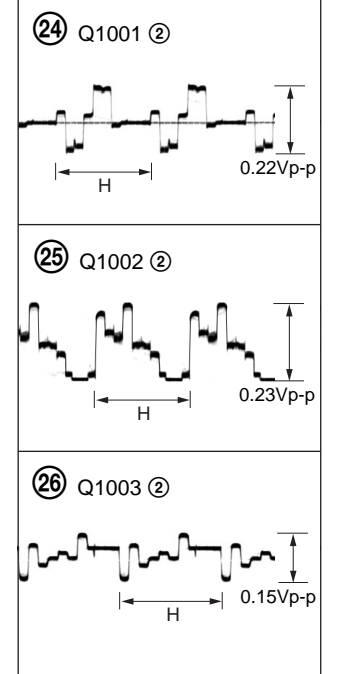
For Schematic Diagram
 • Refer to page 4-12 for printed wiring board.



For Schematic Diagram
 • Refer to page 4-12 for printed wiring board.



VC-207 BOARD (6/15)
 CAMERA REC



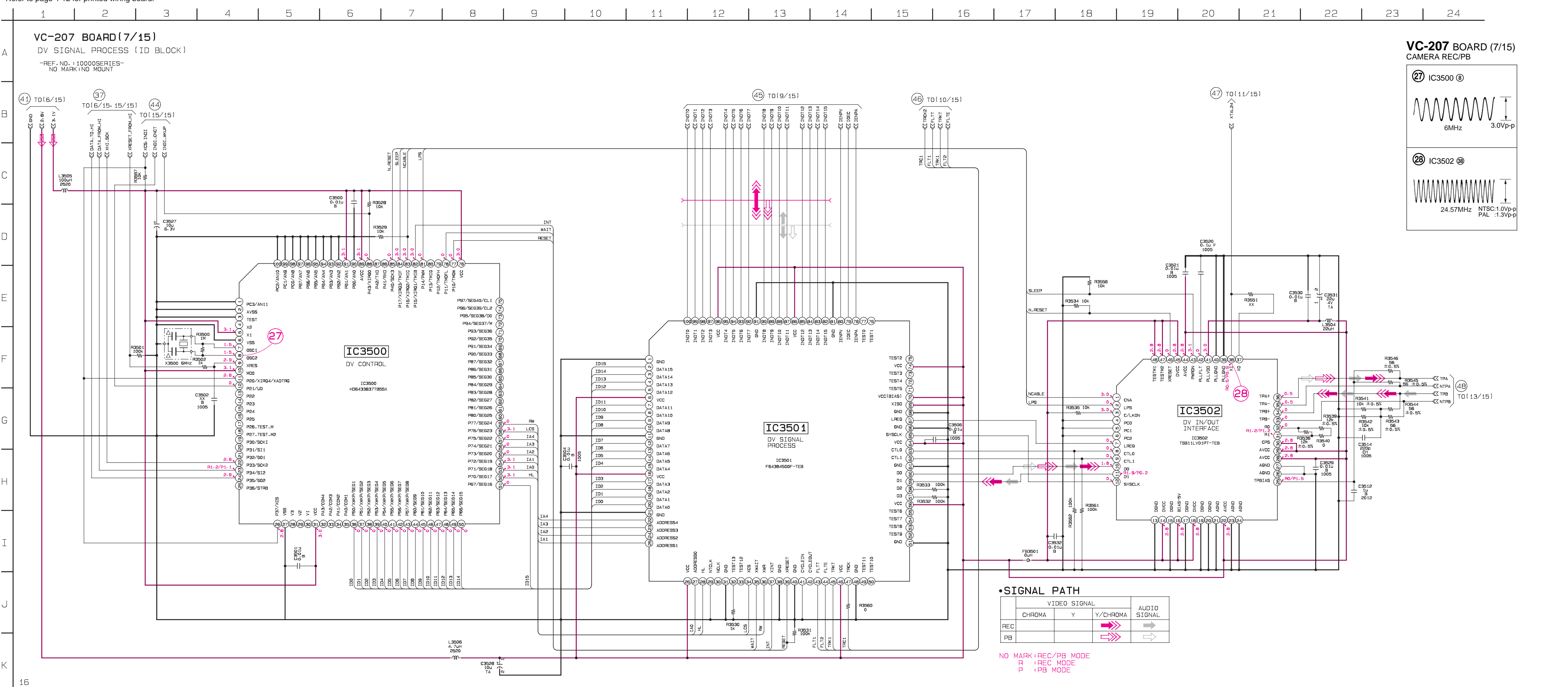
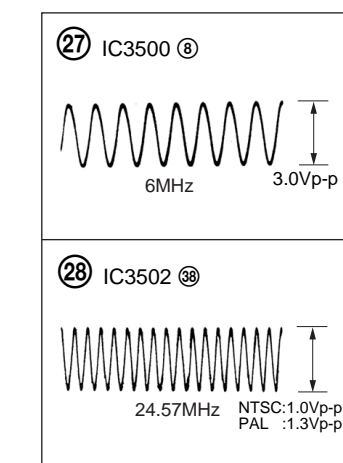
For Schematic Diagram
 Refer to page 4-12 for printed wiring board.

VC-207 BOARD (7/15)

DV SIGNAL PROCESS (ID BLOCK)

REF. NO. : 10000SERIES-
 NO MARK:NO MOUNT

VC-207 BOARD (7/15)
 CAMERA REC/PB



• SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			→	→
PB		→	→	→

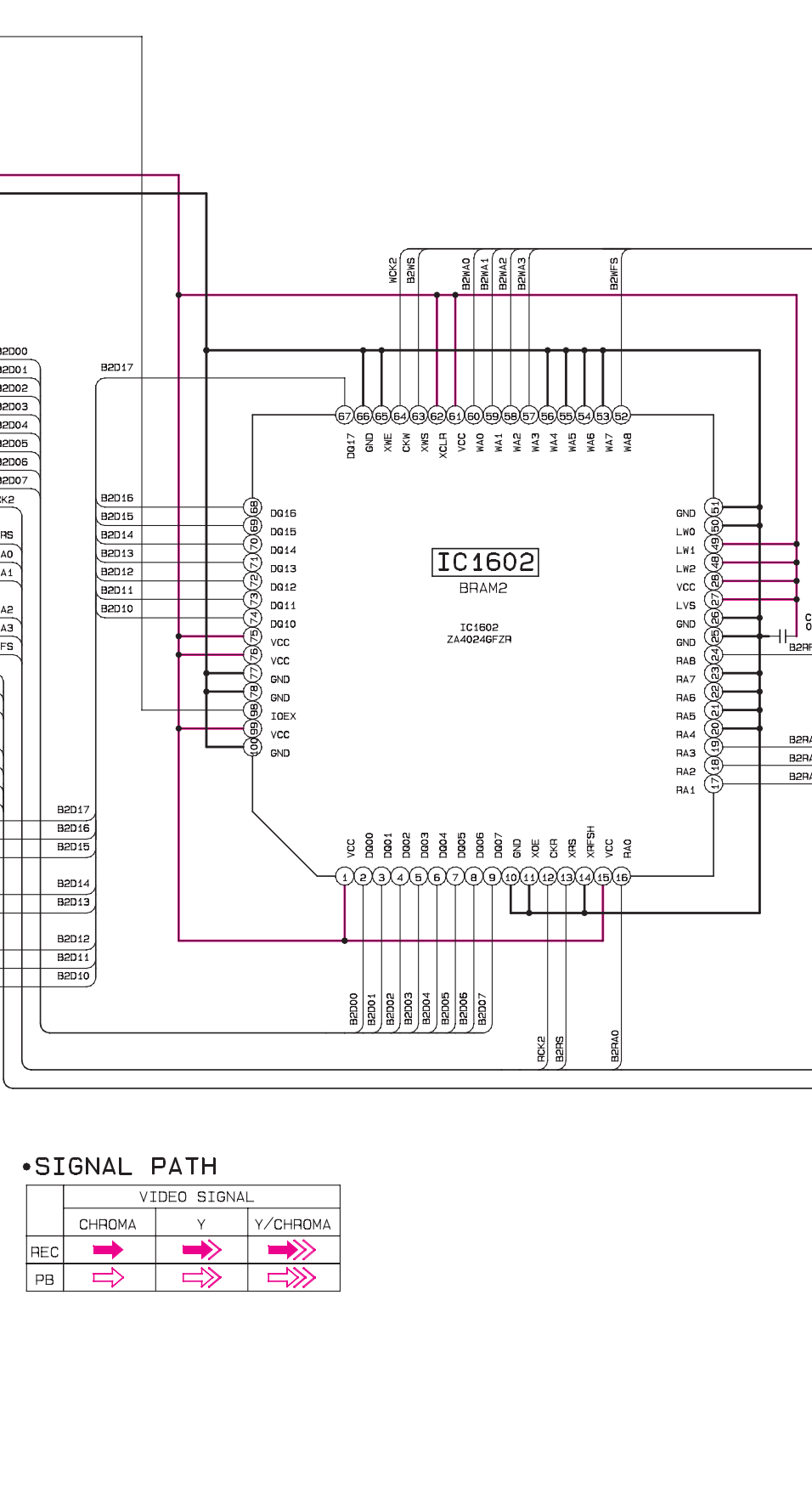
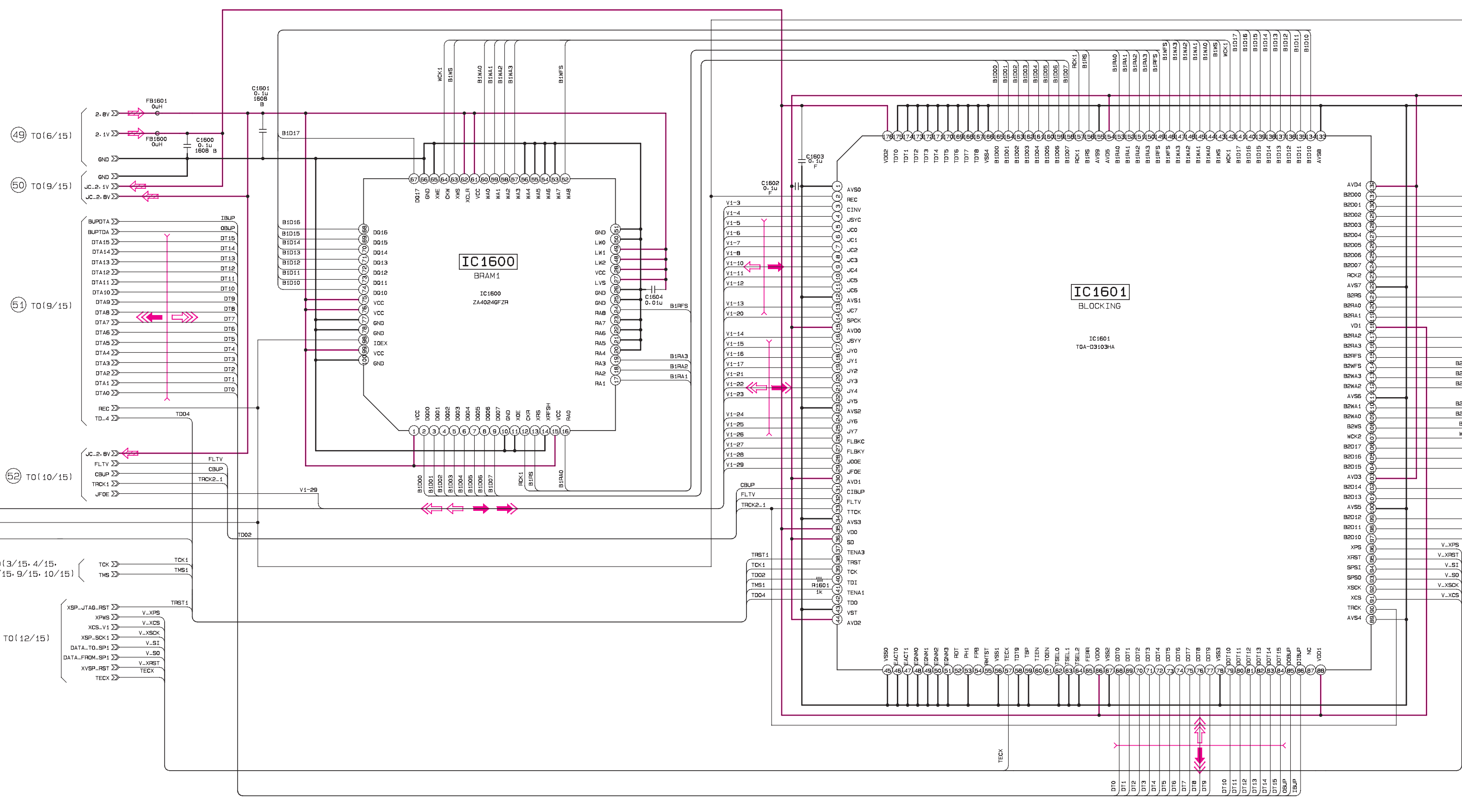
NO MARK: REC/PB MODE
 R : REC MODE
 P : PB MODE

For Schematic Diagram
 • Refer to page 4-12 for printed wiring board.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

A
B
C
D
E
F
G
H
I
J
K

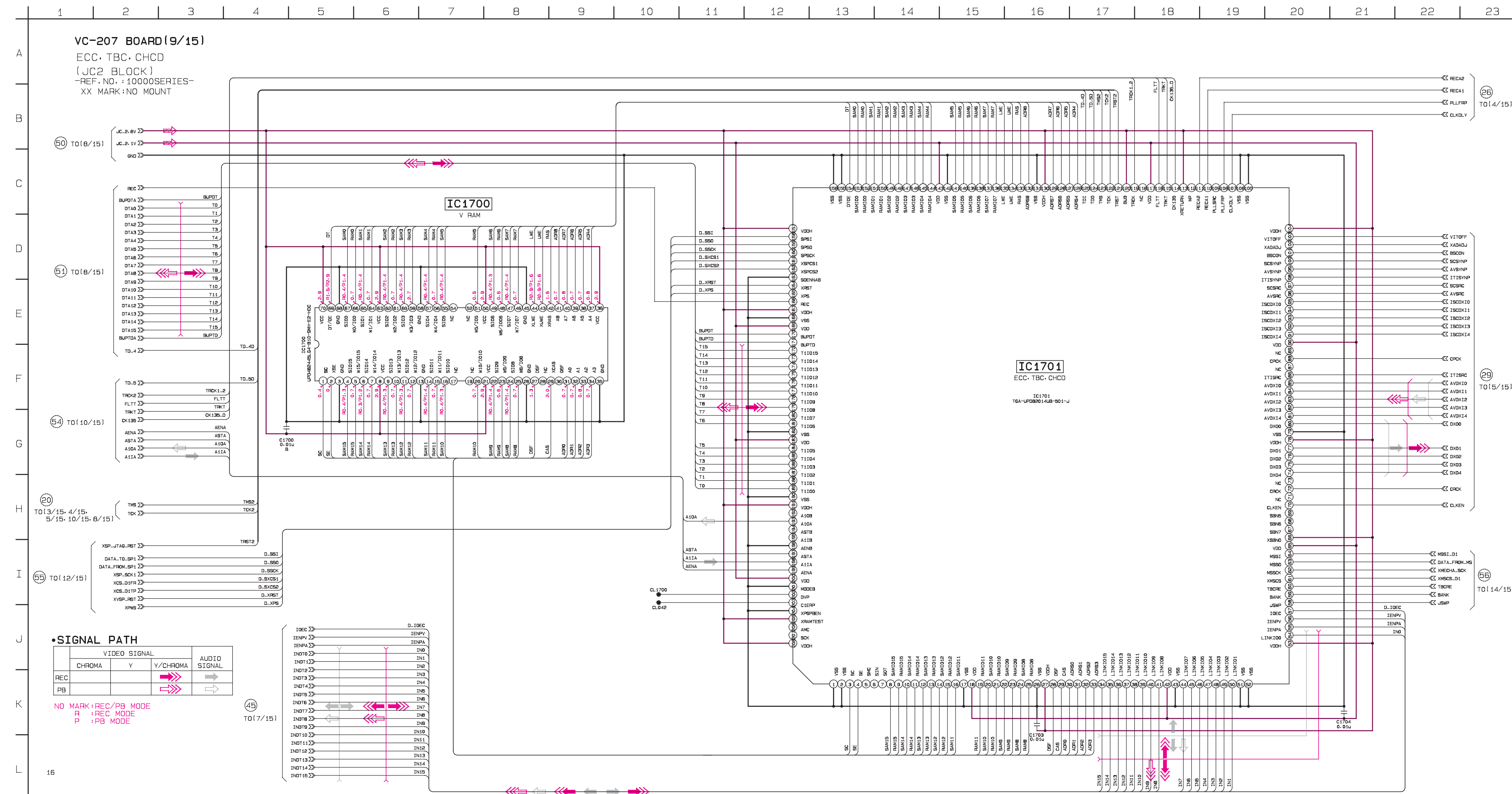
VC-207 BOARD(8/15)
 BLOCKING (JC1 BLOCK)
 -REF. NO.: 10000SERIES-
 -XX MARK:NO MOUNT



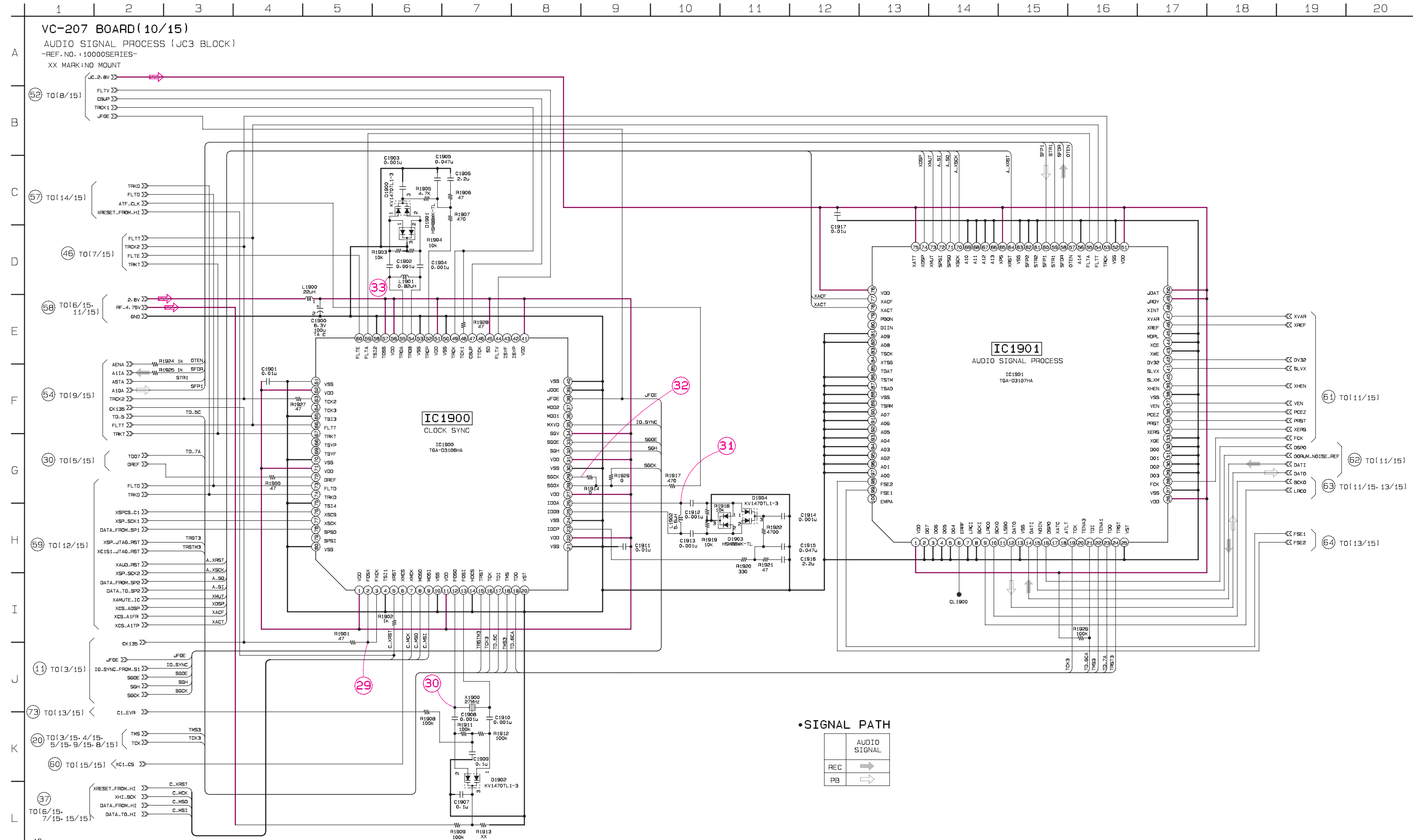
•SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	→	→	→
PB	→	→	→

For Schematic Diagram
• Refer to page 4-12 for printed wiring board.

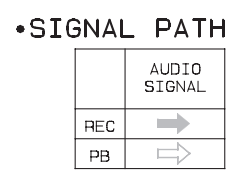


For Schematic Diagram
 • Refer to page 4-12 for printed wiring board.

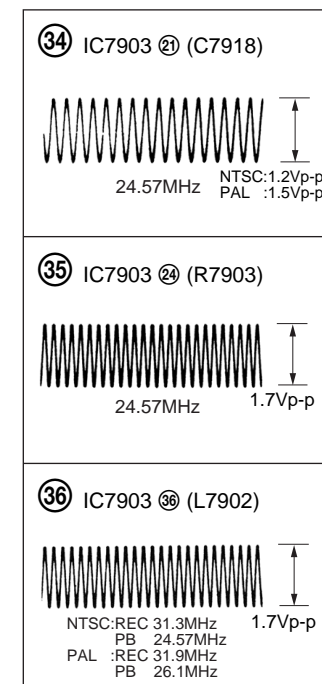


VC-207 BOARD (10/15)
 CAMERA REC/PB

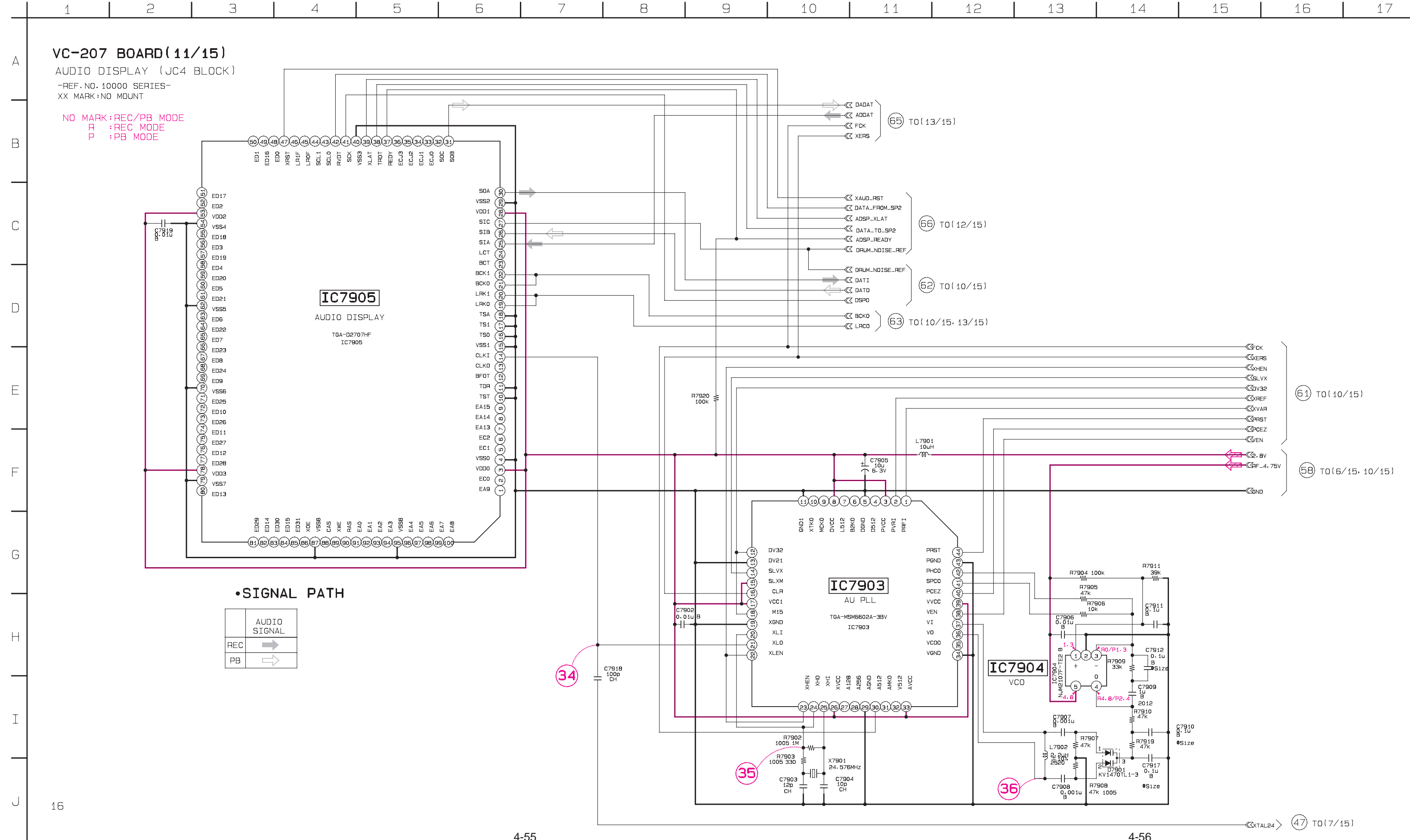
- 29 IC1900 ②,③ (R1901)
- 30 IC1900 ⑩ (X1900)
- 31 IC1900 ⑮ (L1902)
- 32 IC1900 ⑳,㉑ (R1914)
- 33 IC1900 ㉓ (L1901)



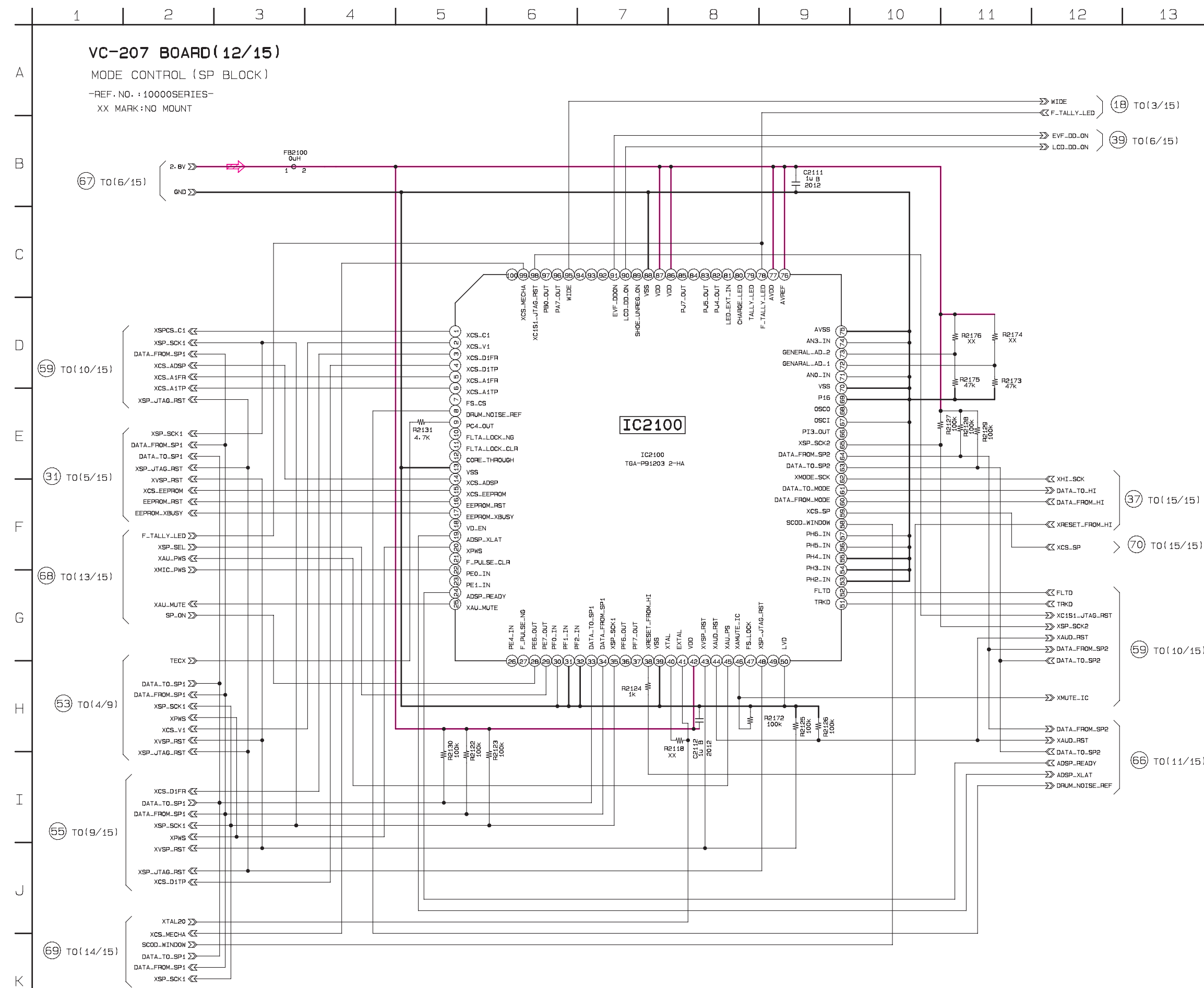
VC-207 BOARD (11/15)
CAMERA REC/PB



For Schematic Diagram
• Refer to page 4-12 for printed wiring board.

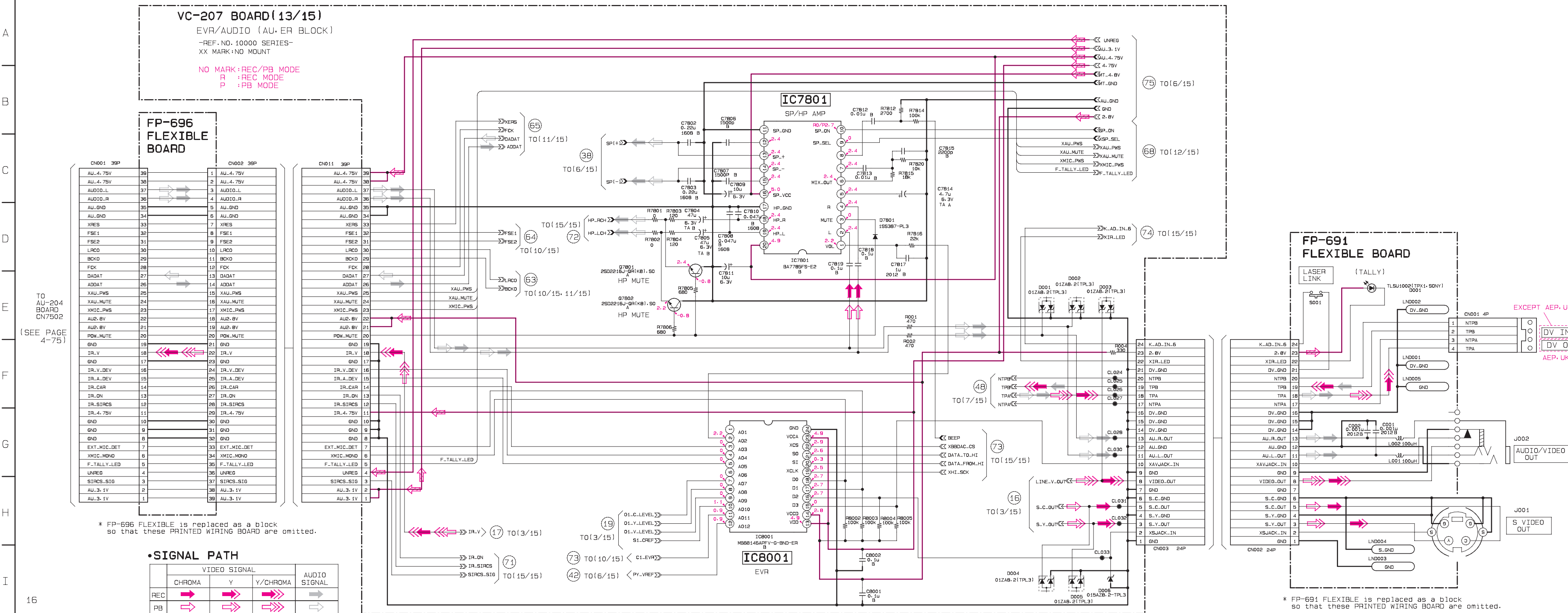


For Schematic Diagram
 • Refer to page 4-12 for printed wiring board.



For Schematic Diagram
 Refer to page 4-12 for printed wiring board.

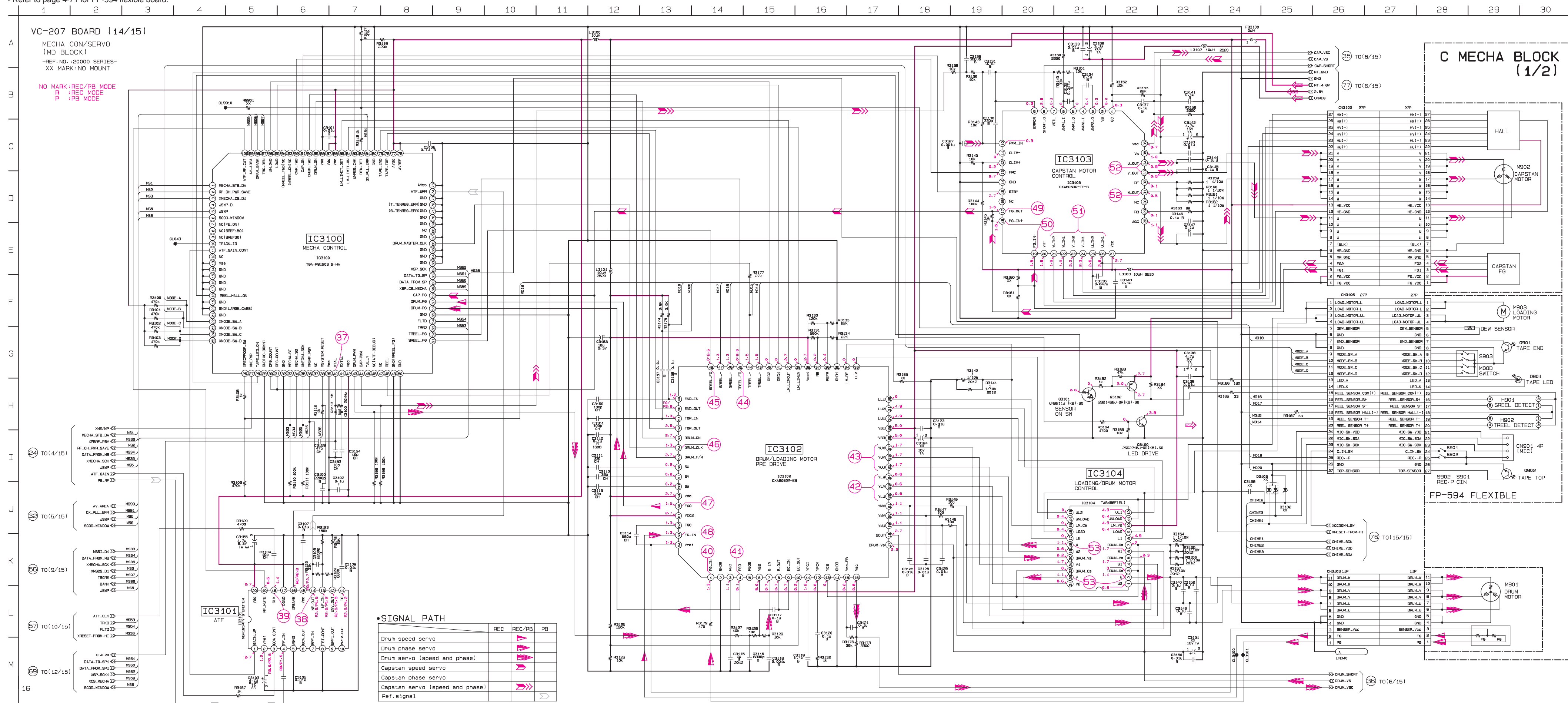
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23



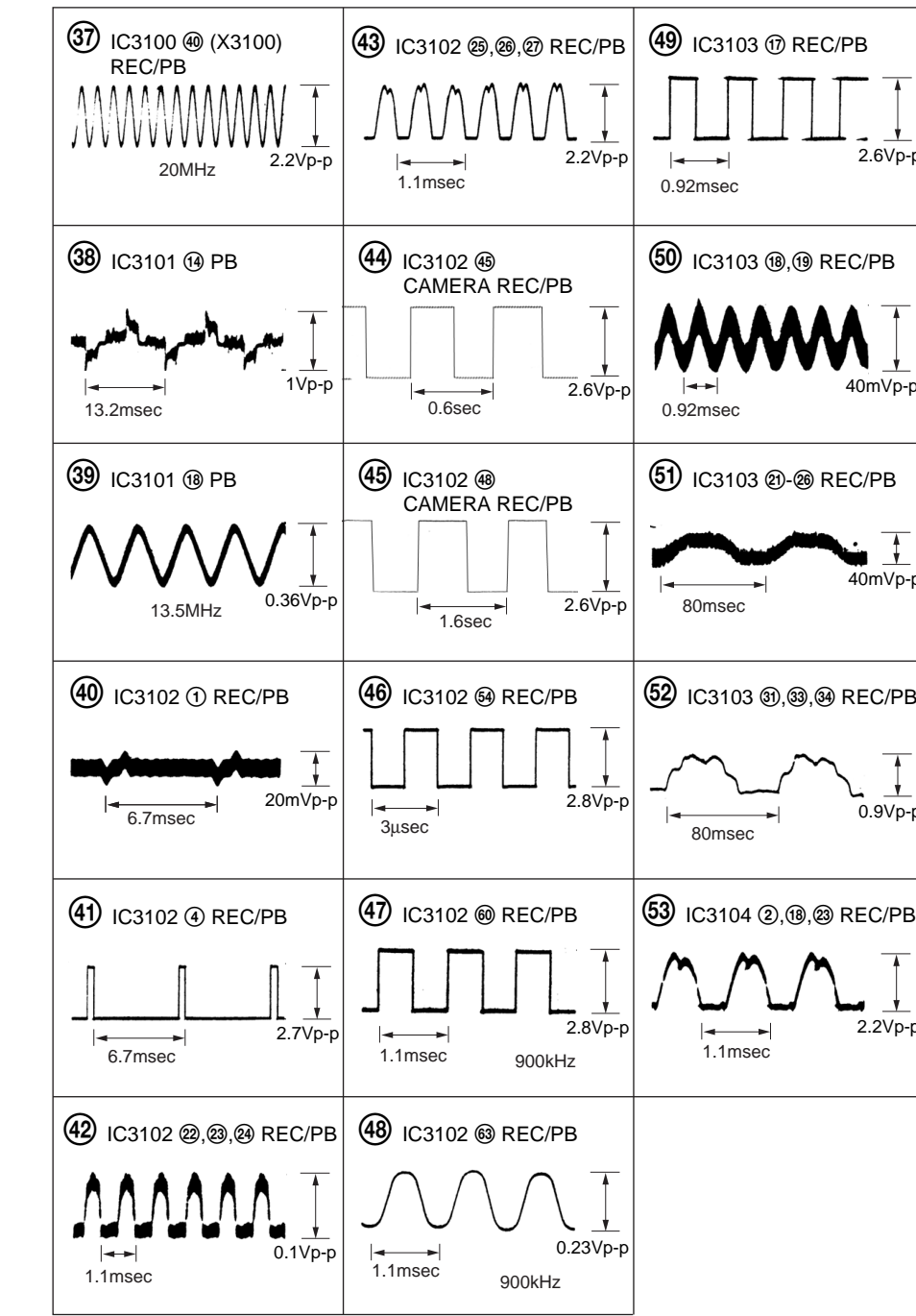
* FP-696 FLEXIBLE is replaced as a block so that these PRINTED WIRING BOARD are omitted.

* FP-691 FLEXIBLE is replaced as a block so that these PRINTED WIRING BOARD are omitted.

For Schematic Diagram
 • Refer to page 4-12 for VC-207 printed wiring board.
 • Refer to page 4-71 for FP-594 flexible board.



VC-207 BOARD (14/15)



AU-204 BOARD AUDIO PROCESSOR (AU BLOCK)

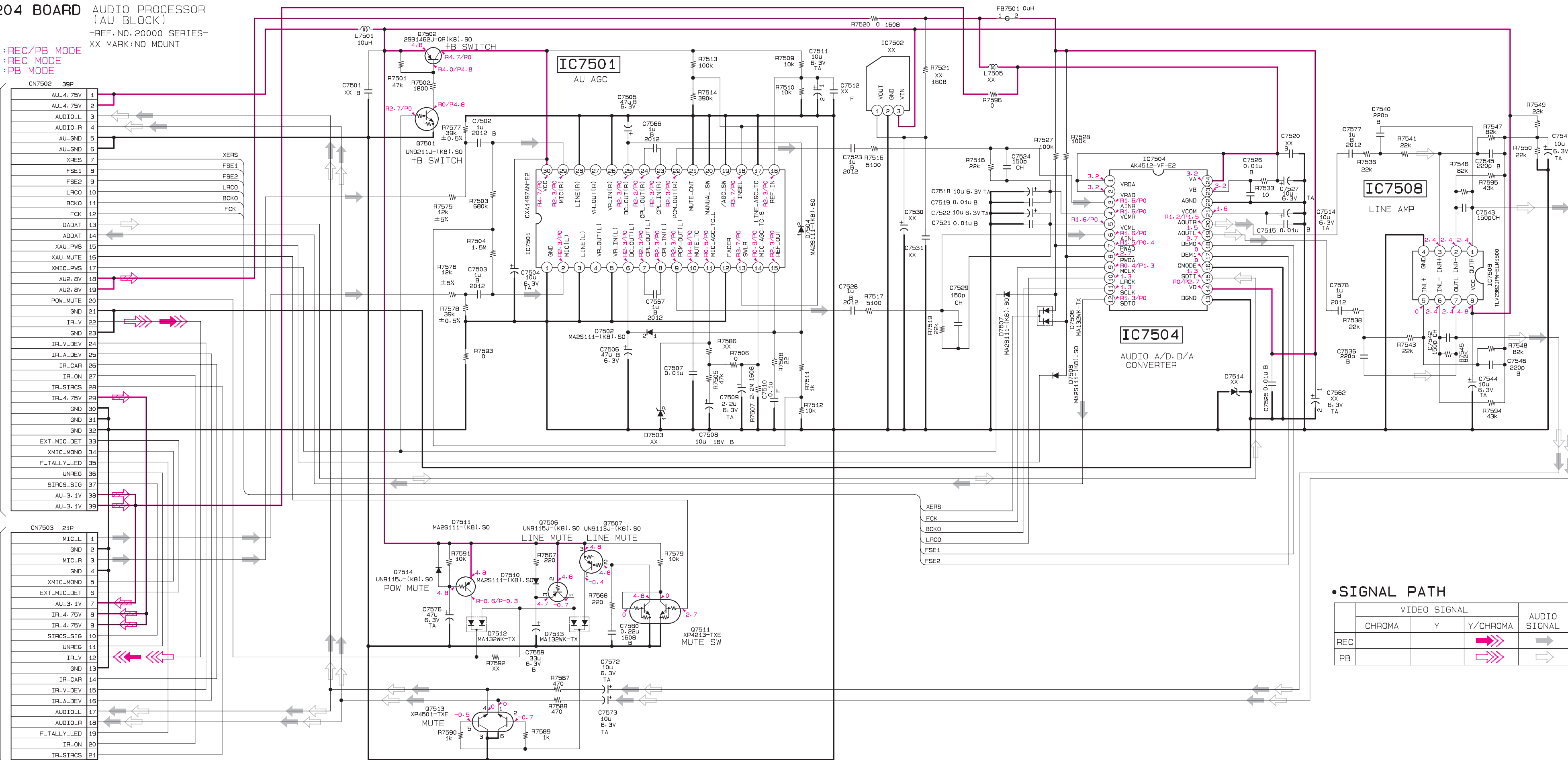
-REF. NO. 20000 SERIES-
XX MARK: NO MOUNT

NO MARK: REC/PB MODE
R : REC MODE
P : PB MODE

A
B
C
D
E
F
G
H
I

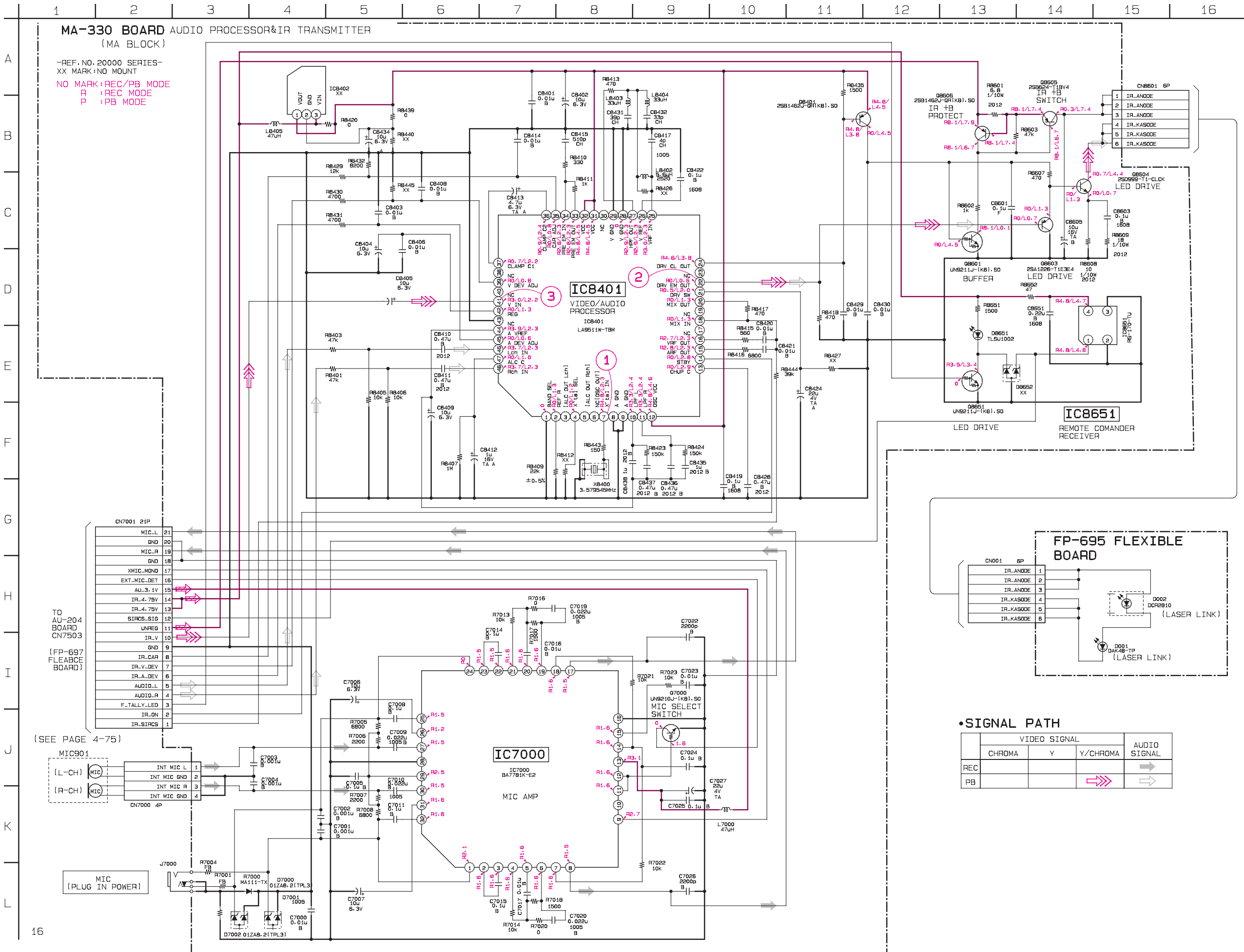
TO FP-696 FLEXIBLE BOARD CNO11 (SEE PAGE 4-60)

TO MA-330 BOARD CN7001 (FP-697 FLEABCE BOARD) (SEE PAGE 4-81)



• SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡➡➡	➡
PB			➡➡➡	➡



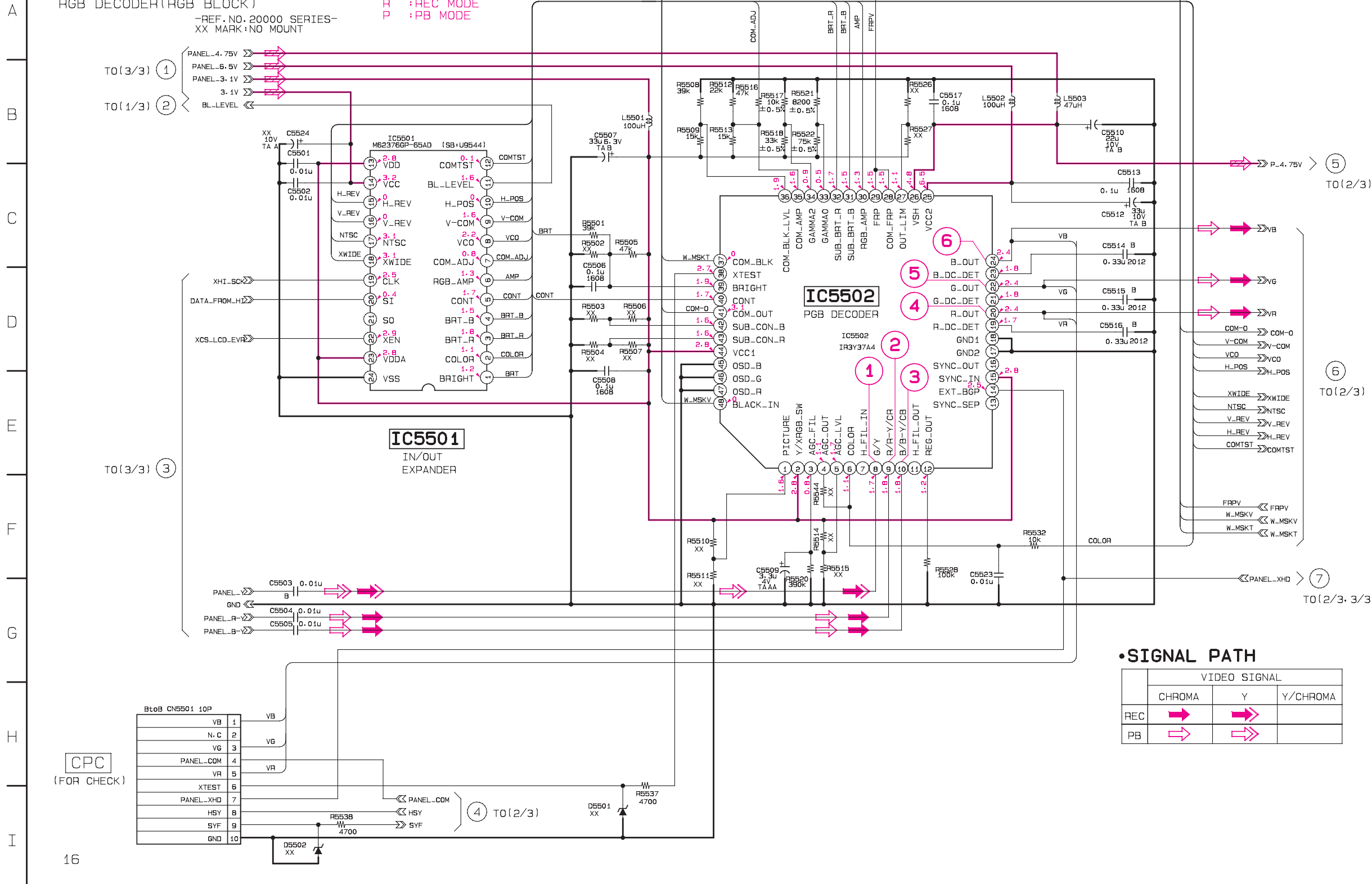
1 2 3 4 5 6 7 8 9 10 11 12 13

PD-100 BOARD (1/3)

RGB DECODER (RGB BLOCK)

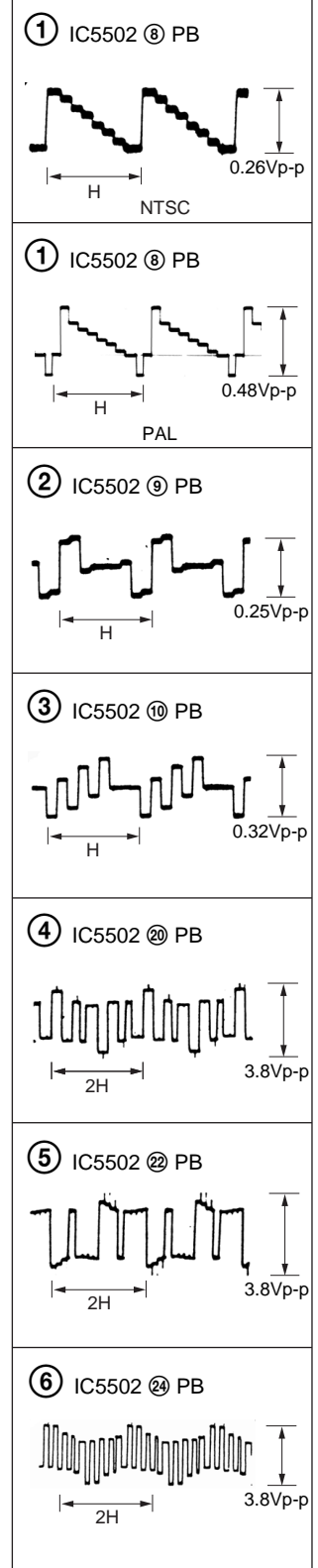
-REF. NO. 20000 SERIES-
XX MARK: NO MOUNT

NO MARK: REC/PB MODE
R : REC MODE
P : PB MODE



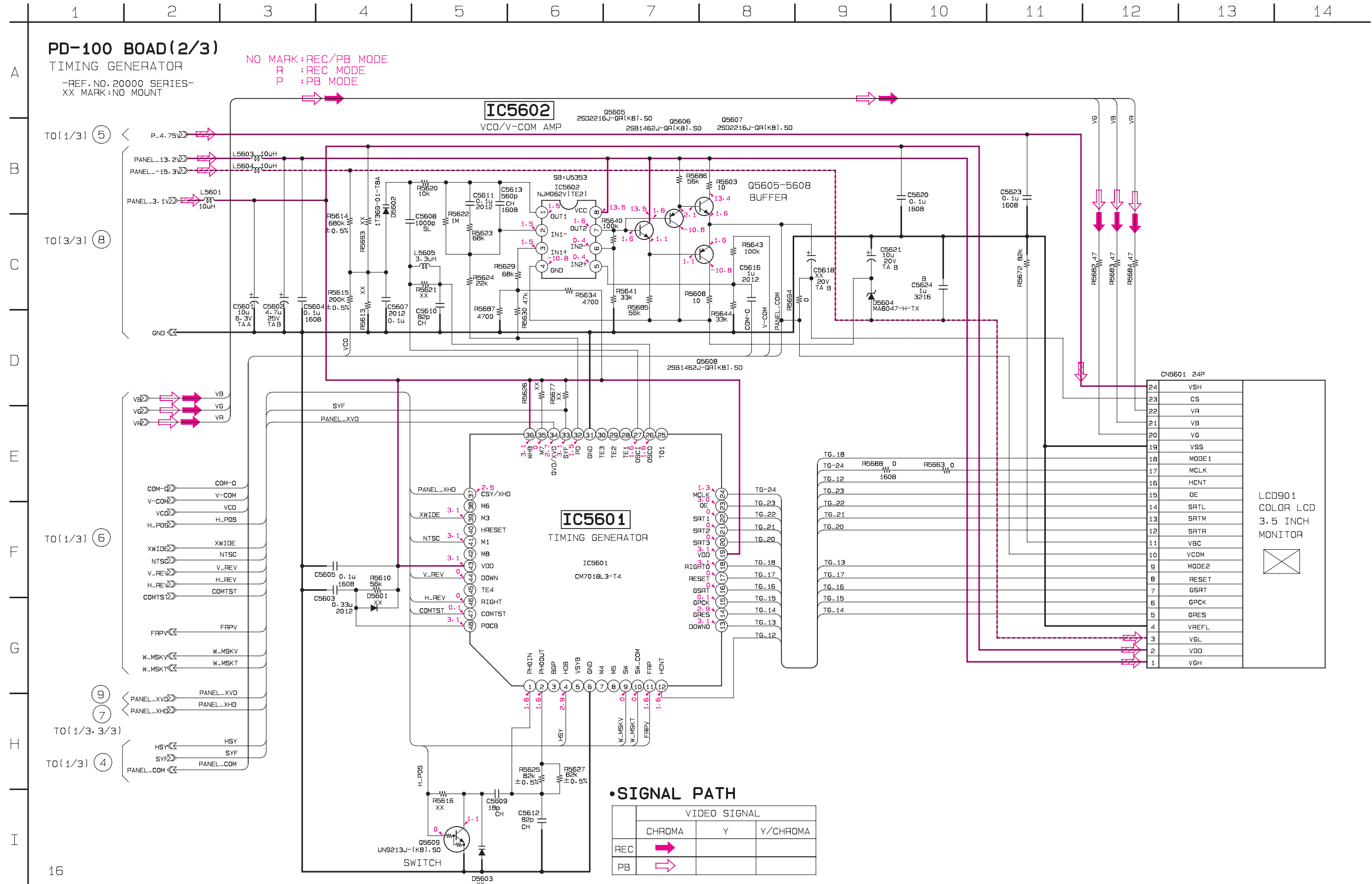
PD-100 BOARD (1/3)

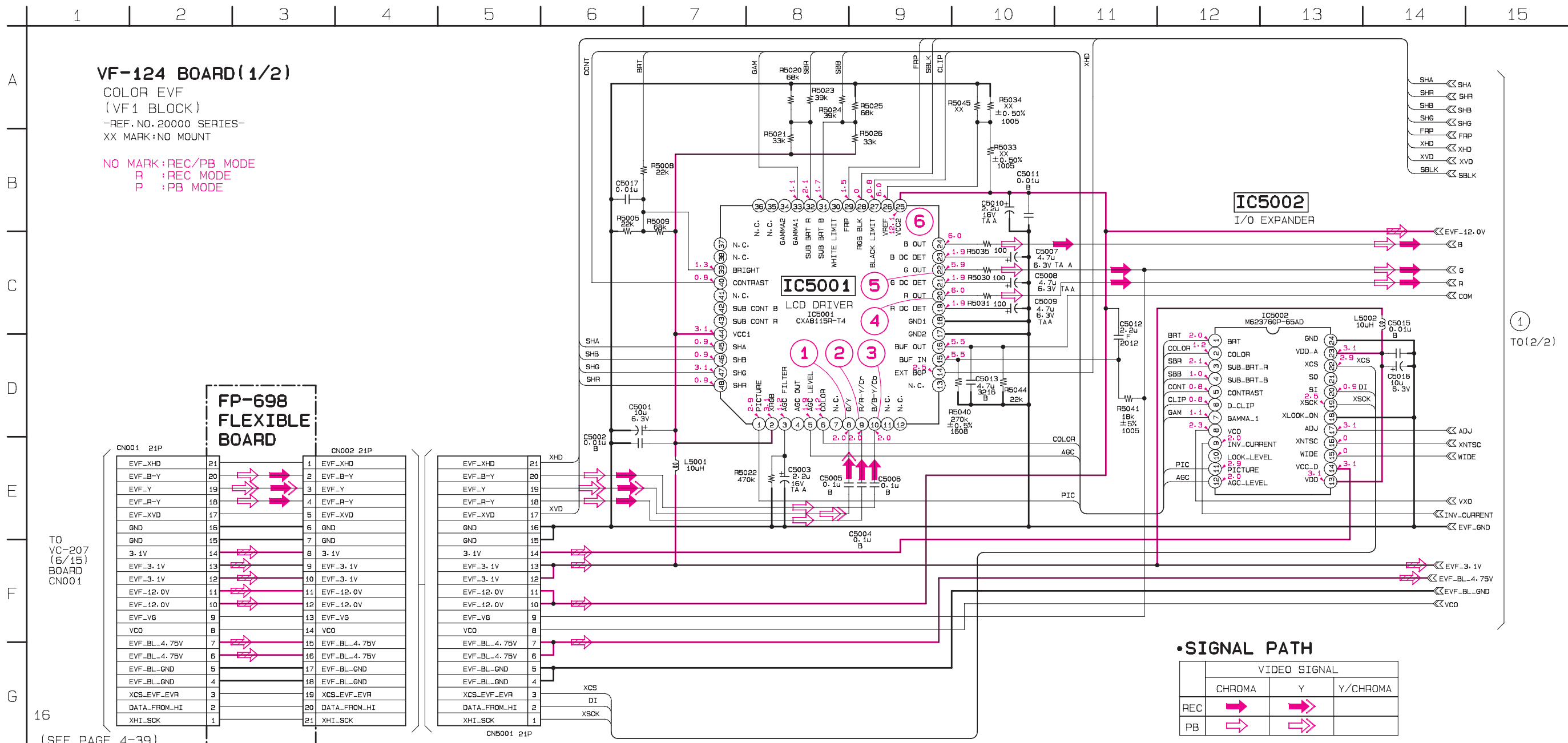
PB



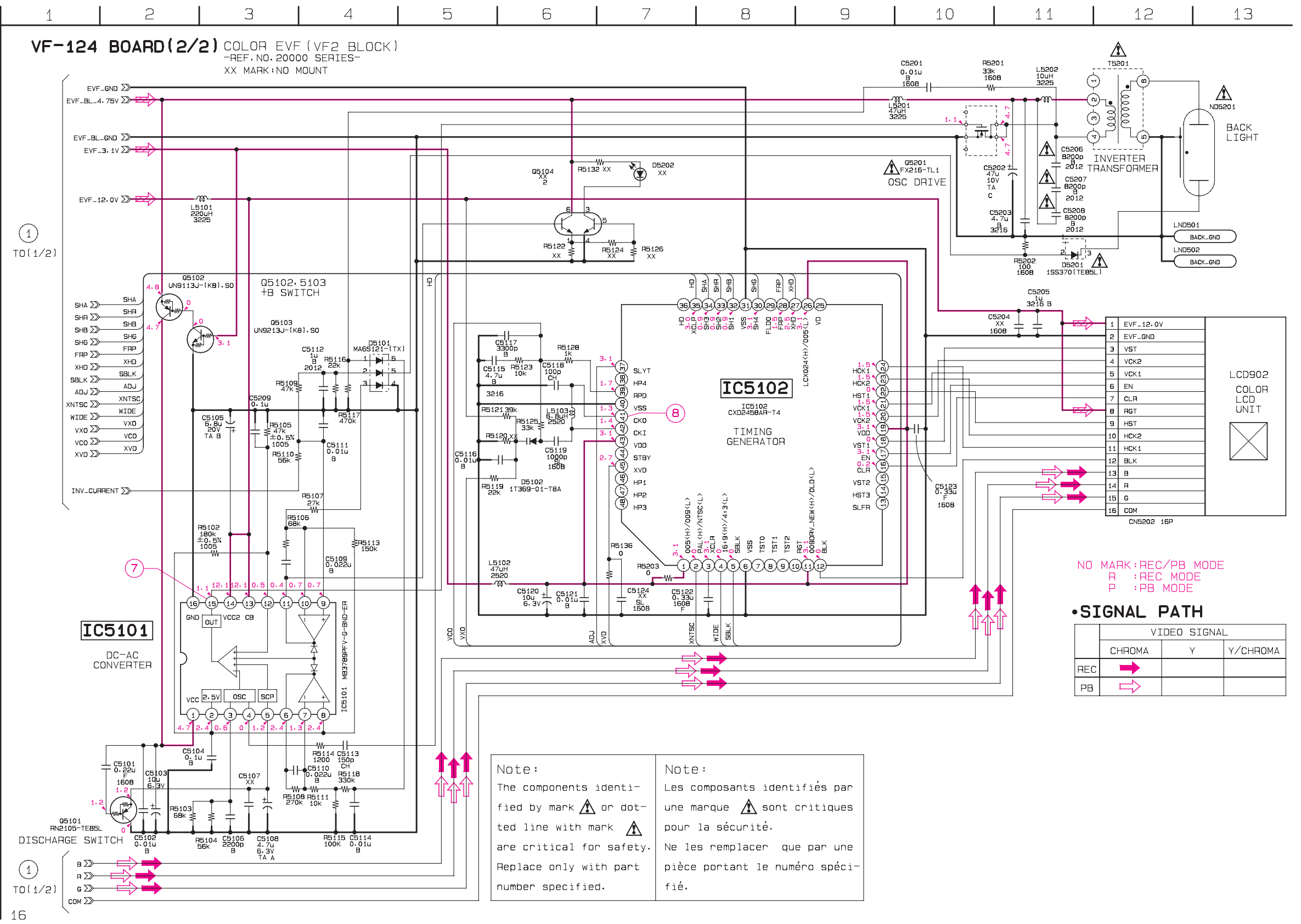
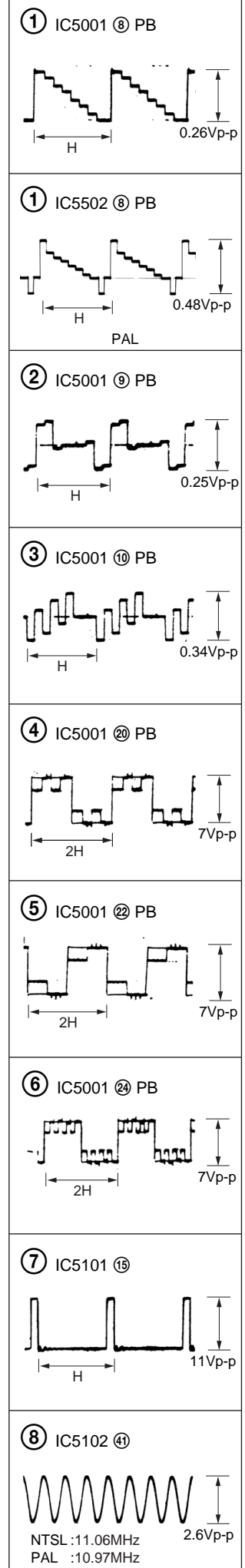
16

For Schematic Diagram
 • Refer to page 4-83 for printed wiring board.
 • Refer to page 4-86 for waveform.

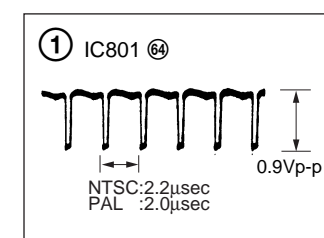




VF-124 BOARD



DD-110 BOARD
CAMERA REC/PB



DD-110 BOARD

DRUM/CAPSTAN PWM DRIVE
DC-DC CONVERTER
-REF. NO. 4000 SERIES-
XX MARK:NO MOUNT

NO MARK: REC/PB MODE
R : REC MODE
P : PB MODE

•SIGNAL PATH

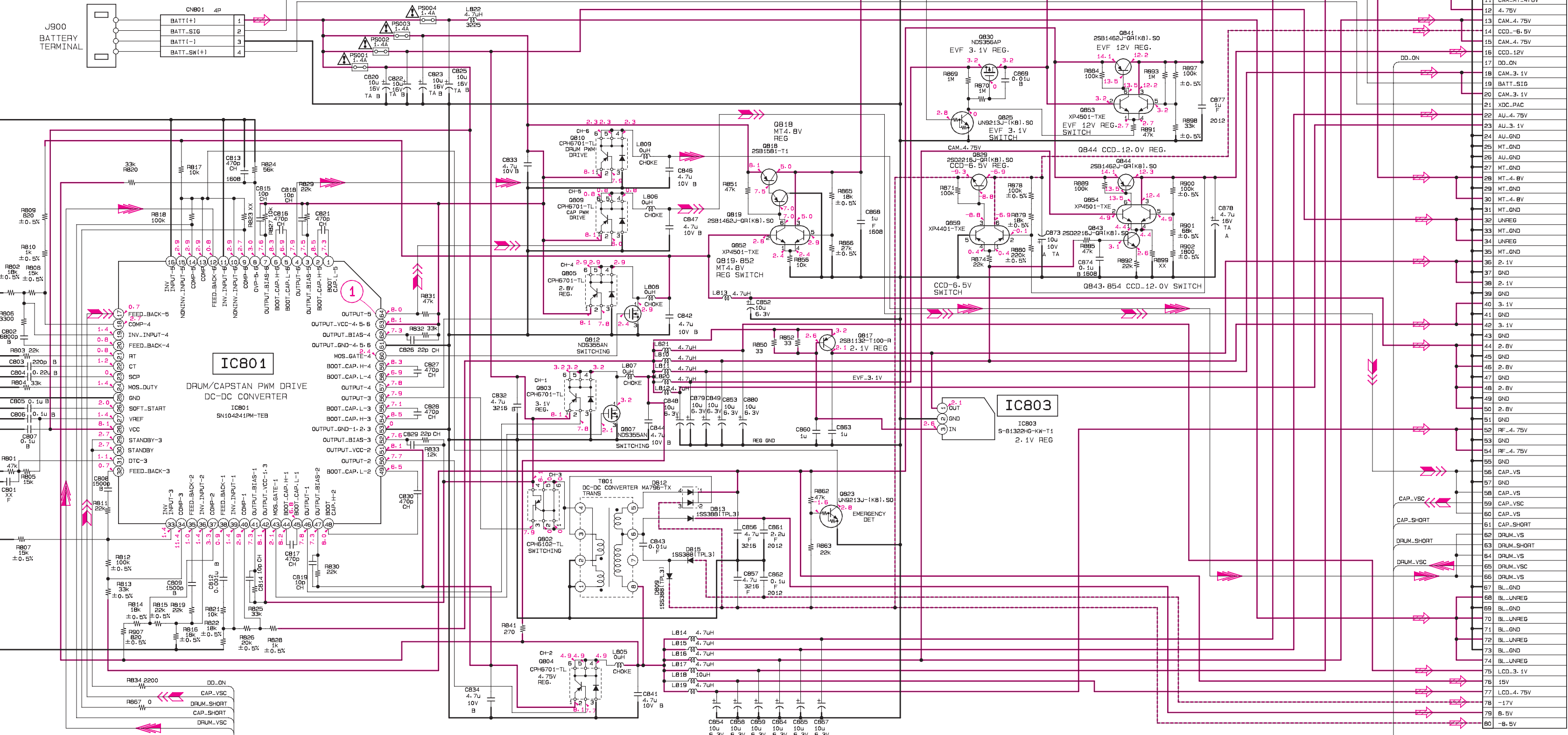
	REC	REC/PB	PB
Drum servo (speed and phase)	▶▶▶▶	▶▶▶▶	▶▶▶▶
Capstan servo (speed and phase)	▶▶▶▶	▶▶▶▶	▶▶▶▶

Note:

The components identified by mark **▲** or dotted line with mark **▲** are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque **▲** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



TO VC207 BOARD(6/15) CN010
SEE PAGE 4-37)