

SONY[®]

INPUT ADAPTOR

BKM-320D

SERVICE MANUAL
1st Edition

⚠ 警告

このマニュアルは、サービス専用です。
お客様が、このマニュアルに記載された設置や保守、点検、修理などを行うと感電や火災、人身事故につながる可能性があります。
危険をさけるため、サービストレーニングを受けた技術者のみご使用ください。

⚠ WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠ WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠ AVERTISSEMENT

Ce manuel est destiné uniquement aux personnes compétentes en charge de l'entretien. Afin de réduire les risques de décharge électrique, d'incendie ou de blessure n'effectuer que les réparations indiquées dans le mode d'emploi à moins d'être qualifié pour en effectuer d'autres. Pour toute réparation faire appel à une personne compétente uniquement.

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Section 1

Electrical Adjustments

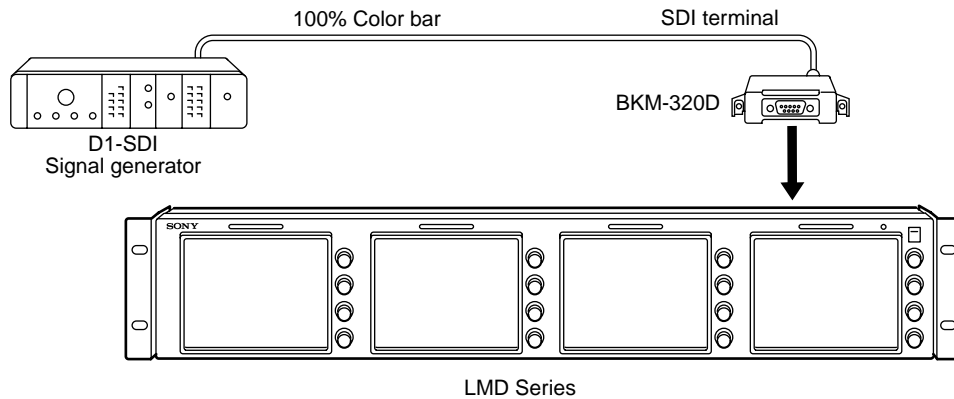
As BKM-320D is optional board of the LMD series (LMD-440/530/720W), it cannot be operated alone. To measure and adjust them, attach to the LMD series monitor. Use the LMD series monitor which satisfies the specifications.

1-1. Preparation

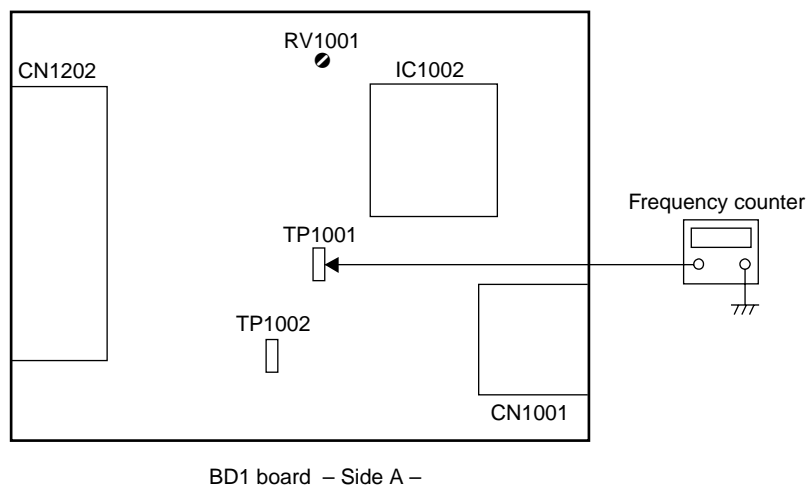
1. Equipment Required

Name	Main Specifications	Equipment Name
Frequency counter	–	–
Signal generator	With D1-SDI standard (SMPTE259M standard)	TEKTRONIX TSG422 or equivalent
Monitor	–	Sony LMD series or equivalent

2. Connection



3. Board Connection



1-2. Adjusting Procedure

1. SDI Free Run Adjustment

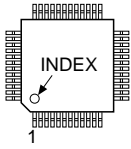
Notes

- No signal applies to SDI input terminals.
- Adjustment performs in no signal input condition.

Adjustment	Standard	Adjusting Point/Method
Connect an frequency counter to TP1001(PCK) on the BD1 board.	TP1001 (PCK) frequency (BD1 board): 27.0 ±0.15 MHz	Adjust PCK using RV1001.

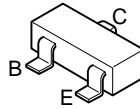
Section 2 Semiconductors

ADV7300AKST

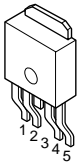


64pin FQFP

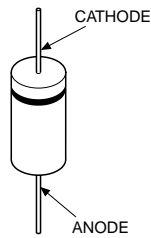
**2SC2412K-T-146-QR
DTA144EKA-T146**



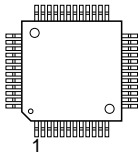
BA33C25FP-E2



**1SS352
1SS352-TPH3**

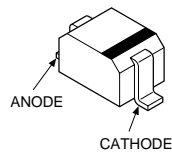


CXB1342R

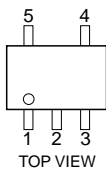


64pin QFP

RD5.6SB-T1



PST9229NL



Section 3

Spare Parts

3-1. Notes on Repair Parts

1. Safety Related Components Warning

WARNING

Components marked \triangle are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

WARNHINWEIS

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

2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.

Parts List has the present standardized repair parts.

3. Stock of Parts

Parts marked with “o” at SP (Supply Code) column of the Spare Parts list may not be stocked. Therefore, the delivery date will be delayed.

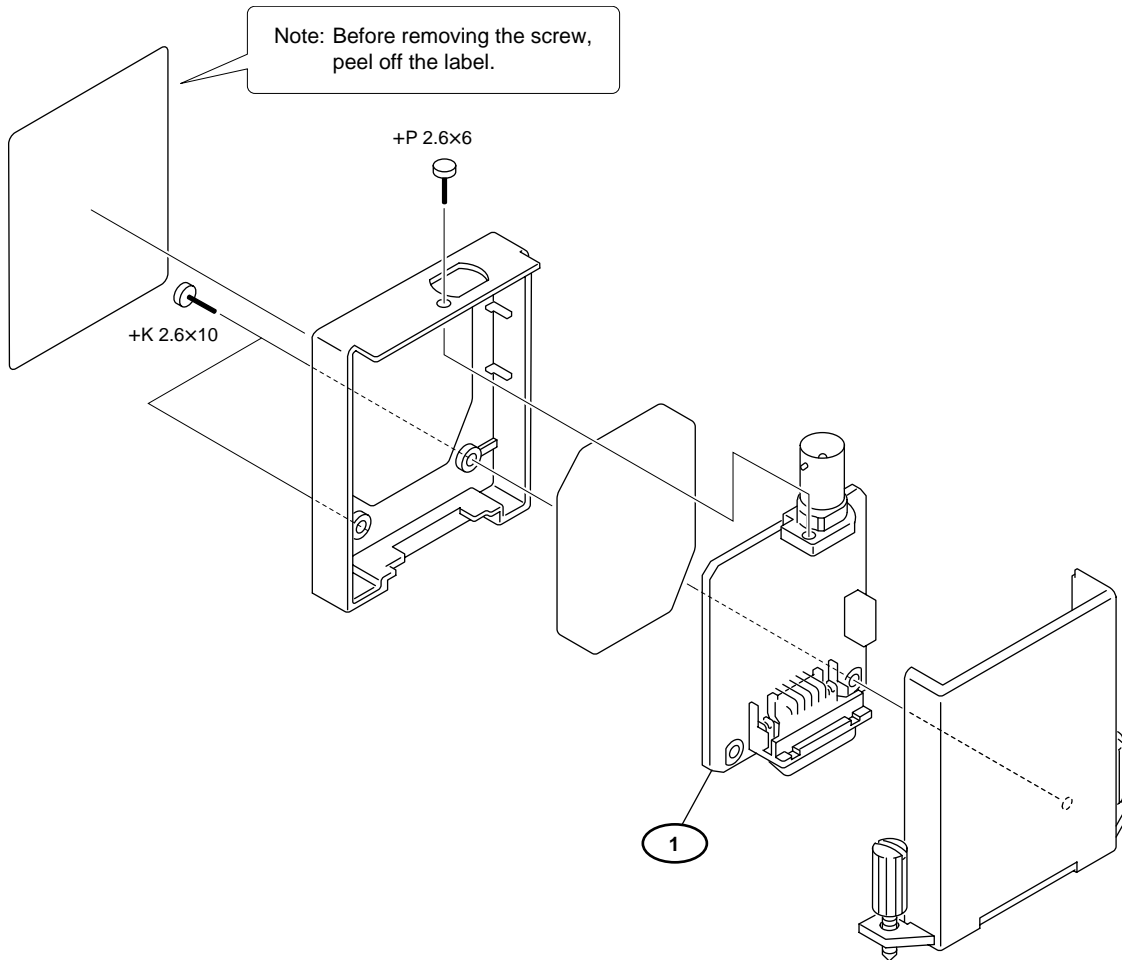
Items with no part number and no description are not stocked because they are seldom required for routine service.

4. Units for Capacitors, Inductors and Resistors

The following units are assumed in Schematic Diagrams, Electrical Parts List and Exploded Views unless otherwise specified.

Capacitors	: μF
Inductors	: μH
Resistors	: Ω

3-2. Exploded Views



No.	Part No.	SP Description
1	A-1302-536-A	s MOUNTED CIRCUIT BOARD, BD1

- Screws/Washers
- 7-621-561-39 s SCREW +K 2.6x10 (ER-FE/CU,NI,CR)
 - 7-621-284-20 s SCREW +P 2.6x6

3-3. Electrical Parts List

BD1 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-1302-536-A	s	MOUNTED CIRCUIT BOARD, BD1
C1001	1-162-927-91	s	C-CAP,U 100P-50 J CH GRM
C1002	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1003	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1004	1-165-989-11	s	CAPACITOR, CERAMIC 10MF (2012)
C1005	1-125-837-91	s	C-CAP,U 1-6.3 K B
C1006	1-162-923-91	s	C-CAP,U 47P-50 J CH GRM
C1007	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1008	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1009	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1011	1-165-989-11	s	CAPACITOR, CERAMIC 10MF (2012)
C1012	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1013	1-165-989-11	s	CAPACITOR, CERAMIC 10MF (2012)
C1014	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1015	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1016	1-162-915-91	s	C-CAP,U 10P-50 D CH
C1017	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1018	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1019	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1020	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1021	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1022	1-100-159-91	s	CAP, CERAMIC 22MF B (SMD) 3216
C1023	1-165-989-11	s	CAPACITOR, CERAMIC 10MF (2012)
C1024	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1025	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1026	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1201	1-100-159-91	s	CAP, CERAMIC 22MF B (SMD) 3216
C1202	1-100-159-91	s	CAP, CERAMIC 22MF B (SMD) 3216
C1203	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1204	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1205	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1206	1-100-159-91	s	CAP, CERAMIC 22MF B (SMD) 3216
C1207	1-107-826-91	s	CAP, CHIP CERAMIC 100000PF B
C1208	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1209	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1210	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1211	1-115-414-91	s	C-CAP,U 820P-25 J CH
C1212	1-164-173-91	s	C-CAP,U 3900P-50 K B GRM
C1213	1-165-989-11	s	CAPACITOR, CERAMIC 10MF (2012)
C1214	1-162-923-91	s	C-CAP,U 47P-50 J CH GRM
C1216	1-100-159-91	s	CAP, CERAMIC 22MF B (SMD) 3216
C1217	1-162-923-91	s	C-CAP,U 47P-50 J CH GRM
C1219	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1220	1-100-159-91	s	CAP, CERAMIC 22MF B (SMD) 3216
C1221	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1404	1-162-927-91	s	C-CAP,U 100P-50 J CH GRM
C1405	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1406	1-100-159-91	s	CAP, CERAMIC 22MF B (SMD) 3216
C1601	1-128-590-11	s	CAPACITOR ELECT 100MF/6.3V(105)
C1602	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1603	1-128-590-11	s	CAPACITOR ELECT 100MF/6.3V(105)
C1604	1-162-970-91	s	C-CAP,U 0.01-25 K B
C1605	1-128-590-11	s	CAPACITOR ELECT 100MF/6.3V(105)
C1606	1-162-970-91	s	C-CAP,U 0.01-25 K B
CN1001	1-793-324-11	o	CONNECTOR, COAXIAL (BNC TYPE)
CN1202	1-770-758-11	s	HEADER, CONNECTOR PIN 9P
CN1401	1-573-806-21	s	PIN, CONNECTOR (1.5MM) (SMD)6P

(BD1 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D1201	8-719-036-66	s	DIODE RD2.2SB-T1
D1202	8-719-036-66	s	DIODE RD2.2SB-T1
D1203	8-719-036-94	s	DIODE RD2.2SB-T1
D1401	8-719-016-75	s	DIODE 1SS352-TPH3
D1402	8-719-016-75	s	DIODE 1SS352-TPH3
FB1001	1-469-379-21	s	FERRITE, EMI (SMD) (2012)
FB1002	1-469-379-21	s	FERRITE, EMI (SMD) (2012)
FB1003	1-469-379-21	s	FERRITE, EMI (SMD) (2012)
FB1201	1-469-379-21	s	FERRITE, EMI (SMD) (2012)
FB1202	1-469-379-21	s	FERRITE, EMI (SMD) (2012)
FB1203	1-469-379-21	s	FERRITE, EMI (SMD) (2012)
FB1204	1-469-379-21	s	FERRITE, EMI (SMD) (2012)
FB1401	1-469-379-21	s	FERRITE, EMI (SMD) (2012)
FB1601	1-469-379-21	s	FERRITE, EMI (SMD) (2012)
FL1201	1-239-895-22	s	FILTER, EMI (SMD)
FL1202	1-239-895-22	s	FILTER, EMI (SMD)
IC1001	8-759-666-13	s	IC PST9229NL
IC1002	8-752-078-34	s	IC CXB1342R
IC1201	6-701-079-01	s	IC ADV7300AKST
IC1401	-----	s	IC PIC16LF873A-I/ML
Note	If this IC has failed, replace the whole BD1 board.		
IC1601	6-701-808-01	s	IC BA33C25FP-E2
L1001	1-414-463-41	s	INDUCTOR, CHIP (J) 10NH
L1002	1-414-468-41	s	INDUCTOR, CHIP (J) 27NH
L1201	1-412-989-41	s	INDUCTOR, SMALL TYPE 6.8UH
L1202	1-412-989-41	s	INDUCTOR, SMALL TYPE 6.8UH
L1203	1-412-989-41	s	INDUCTOR, SMALL TYPE 6.8UH
L1204	1-412-989-41	s	INDUCTOR, SMALL TYPE 6.8UH
Q1001	8-729-027-38	s	TRANSISTOR DTA144EKA-T146
Q1201	8-729-920-75	s	TRANSISTOR 2SC2412K-T-146-QR
Q1202	8-729-920-75	s	TRANSISTOR 2SC2412K-T-146-QR
R1001	1-216-829-91	s	RES, CHIP 4.7K (1608)
R1002	1-216-821-91	s	RES, CHIP 1.0K (1608)
R1003	1-211-990-11	s	RESISTOR,CHIP 75 1/10W (1608)
R1004	1-216-847-91	s	RES, CHIP 150K (1608)
R1006	1-218-990-91	s	CONDUCTOR, CHIP (1005)
R1007	1-218-990-91	s	CONDUCTOR, CHIP (1005)
R1008	1-216-833-91	s	RES, CHIP 10K (1608)
R1009	1-216-833-91	s	RES, CHIP 10K (1608)
R1010	1-216-832-91	s	RES, CHIP 8.2K (1608)
R1011	1-216-814-91	s	RES, CHIP 270 (1608)
R1012	1-216-826-91	s	RES, CHIP 2.7K (1608)
R1013	1-216-826-91	s	RES, CHIP 2.7K (1608)
R1014	1-216-826-91	s	RES, CHIP 2.7K (1608)
R1015	1-218-847-91	s	RES, CHIP 1.0K (1608)
R1017	1-216-817-91	s	RES, CHIP 470 (1608)
R1018	1-216-817-91	s	RES, CHIP 470 (1608)
R1019	1-216-864-91	s	CONDUCTOR, CHIP (1608)
R1201	1-216-829-91	s	RES, CHIP 4.7K (1608)
R1204	1-216-829-91	s	RES, CHIP 4.7K (1608)
R1205	1-216-829-91	s	RES, CHIP 4.7K (1608)
R1206	1-216-864-91	s	CONDUCTOR, CHIP (1608)
R1207	1-216-864-91	s	CONDUCTOR, CHIP (1608)
R1208	1-216-864-91	s	CONDUCTOR, CHIP (1608)
R1209	1-216-864-91	s	CONDUCTOR, CHIP (1608)
R1210	1-218-844-91	s	RES, CHIP 750 (1608)
R1211	1-216-811-91	s	RES, CHIP 150 (1608)
R1212	1-216-811-91	s	RES, CHIP 150 (1608)

3-4. Supplied Accessories

(BD1 BOARD)

Ref. No.
or Q'ty Part No. SP Description

R1213 1-216-811-91 s RES, CHIP 150 (1608)
R1214 1-216-811-91 s RES, CHIP 150 (1608)
R1215 1-218-844-91 s RES, CHIP 750 (1608)
R1216 1-216-819-91 s RES, CHIP 680 (1608)
R1218 1-216-829-91 s RES, CHIP 4.7K (1608)

R1219 1-218-834-91 s RES, CHIP 300 (1608)
R1220 1-218-834-91 s RES, CHIP 300 (1608)
R1221 1-216-833-91 s RES, CHIP 10K (1608)
R1222 1-216-824-91 s RES, CHIP 1.8K (1608)
R1223 1-218-285-91 s RES, CHIP 75 (1608)

R1224 1-216-864-91 s CONDUCTOR, CHIP (1608)
R1225 1-218-834-91 s RES, CHIP 300 (1608)
R1226 1-218-834-91 s RES, CHIP 300 (1608)
R1227 1-216-833-91 s RES, CHIP 10K (1608)
R1228 1-216-824-91 s RES, CHIP 1.8K (1608)

R1229 1-218-285-91 s RES, CHIP 75 (1608)
R1230 1-216-864-91 s CONDUCTOR, CHIP (1608)
R1231 1-216-864-91 s CONDUCTOR, CHIP (1608)
R1232 1-216-864-91 s CONDUCTOR, CHIP (1608)
R1233 1-216-864-91 s CONDUCTOR, CHIP (1608)

R1401 1-216-821-91 s RES, CHIP 1.0K (1608)
R1402 1-216-821-91 s RES, CHIP 1.0K (1608)
R1403 1-216-821-91 s RES, CHIP 1.0K (1608)
R1404 1-216-821-91 s RES, CHIP 1.0K (1608)
R1405 1-218-859-91 s RES, CHIP 3.3K (1608)

R1406 1-216-829-91 s RES, CHIP 4.7K (1608)
R1407 1-216-829-91 s RES, CHIP 4.7K (1608)

RB1001 1-234-372-21 s RES, NETWORK 100X4 (1005)
RB1002 1-234-372-21 s RES, NETWORK 100X4 (1005)
RB1003 1-234-372-21 s RES, NETWORK 100X4 (1005)

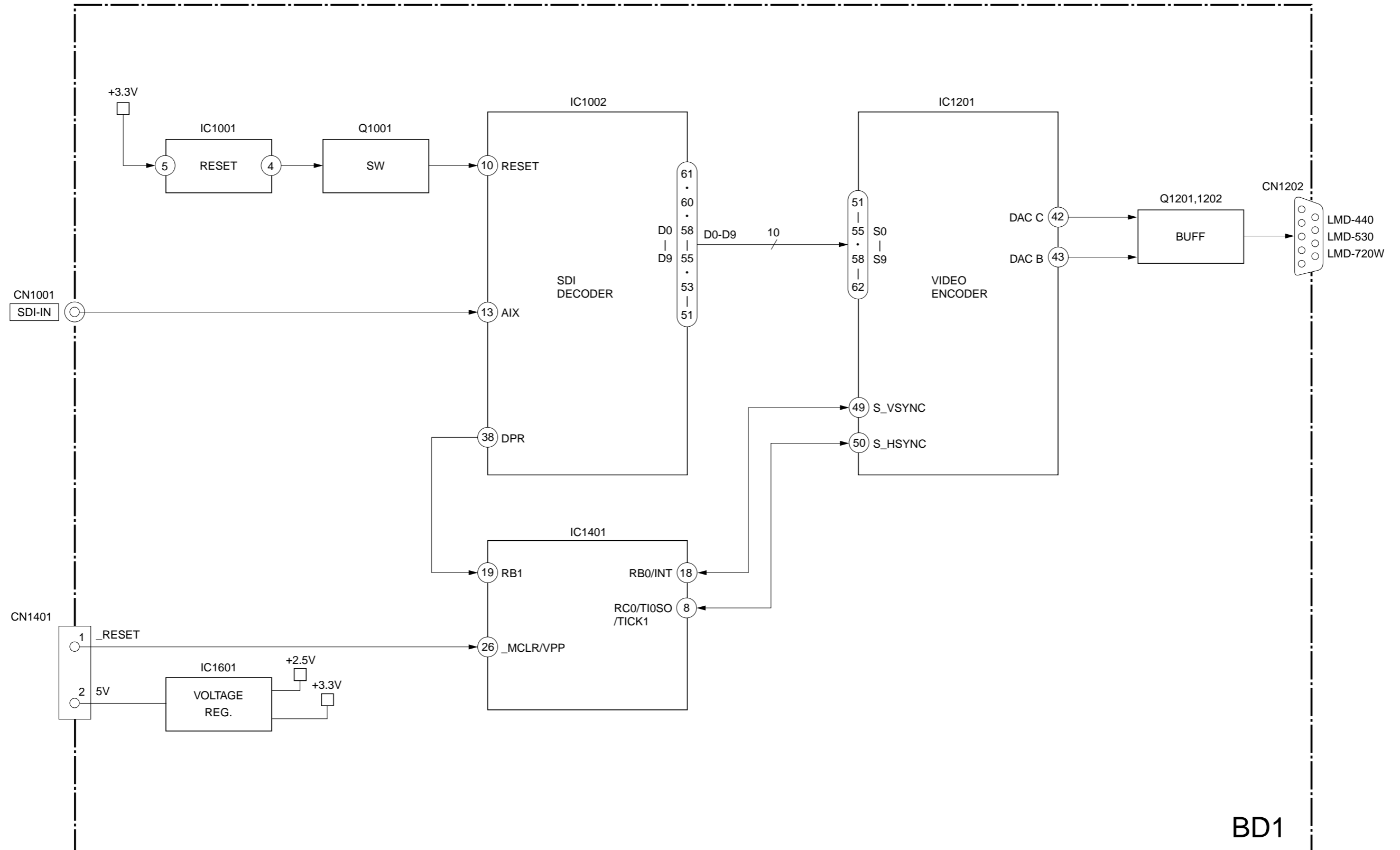
RV1001 1-225-791-21 s RES, ADJ, CERMET 5K

TH1201 1-771-075-21 s THERMISTOR, POSITIVE

Ref. No.
or Q'ty Part No. SP Description

1pc 3-709-770-01 s OPERATING INSTRUCTIONS
(JAPANESE, SIMPLIFIED CHINESE,
ENGLISH, FRENCH, SPANISH, GERMAN,
ITALIAN)

Section 4
Block Diagrams



BD1

Section 5 Diagrams

5-1. Schematic Diagrams and Printed Wiring Boards

Note:

- The parts marked “ # ” on schematic diagrams are not mounted.
- All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$ 50WV or less are not indicated except for electrolytics.
- All electrolytics are in 50 V unless otherwise specified.
- : panel designation and adjustment for repair
- Caution when replacing chip parts
New parts must be attached after removal of the chip.
Be careful not to heat the minus side of a tantalum capacitor, because it is easily damaged by the heat.

Reference information

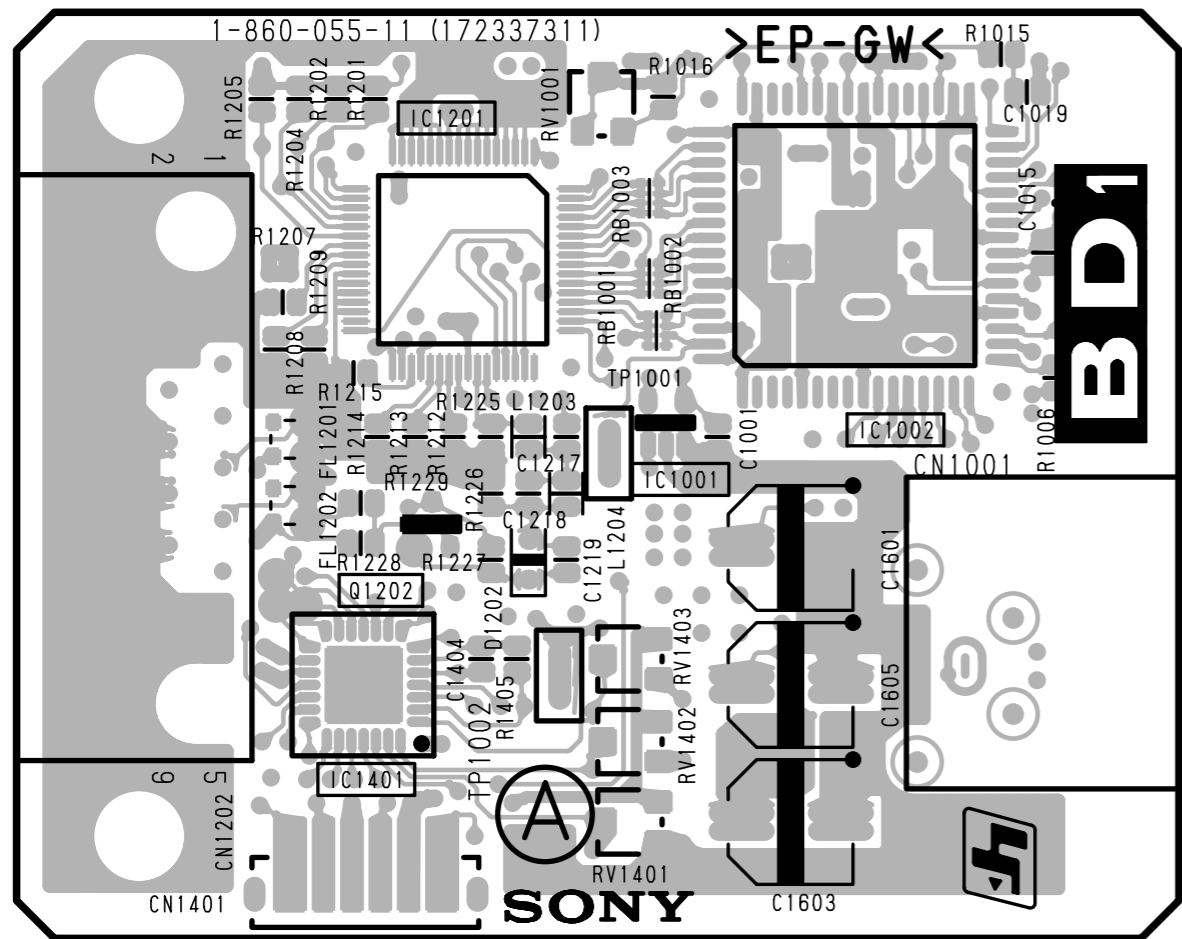
RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

[Measuring conditions, voltage and waveform]

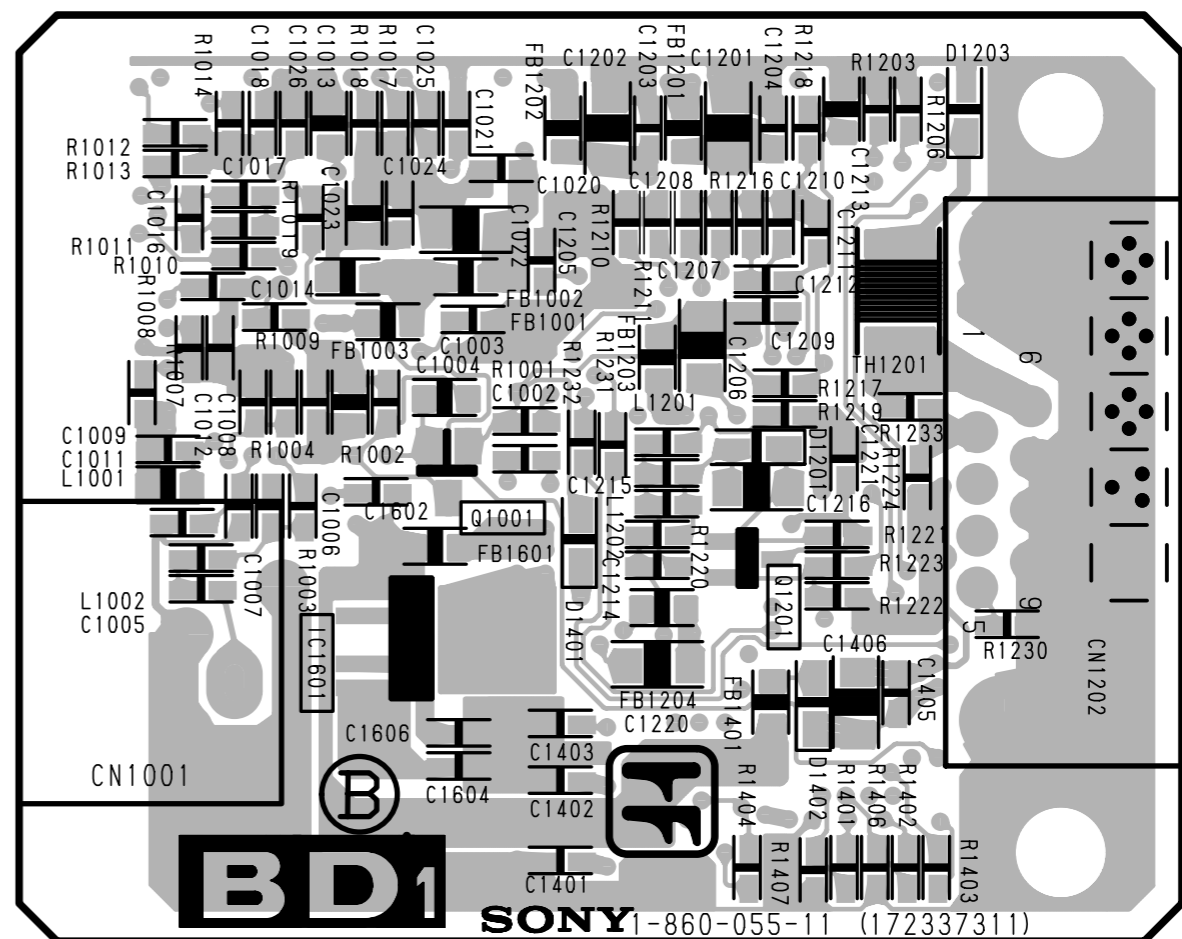
- : B line
- : Signal path.

The components identified marked \triangle are critical for safety.
Replace only with the part number specified.

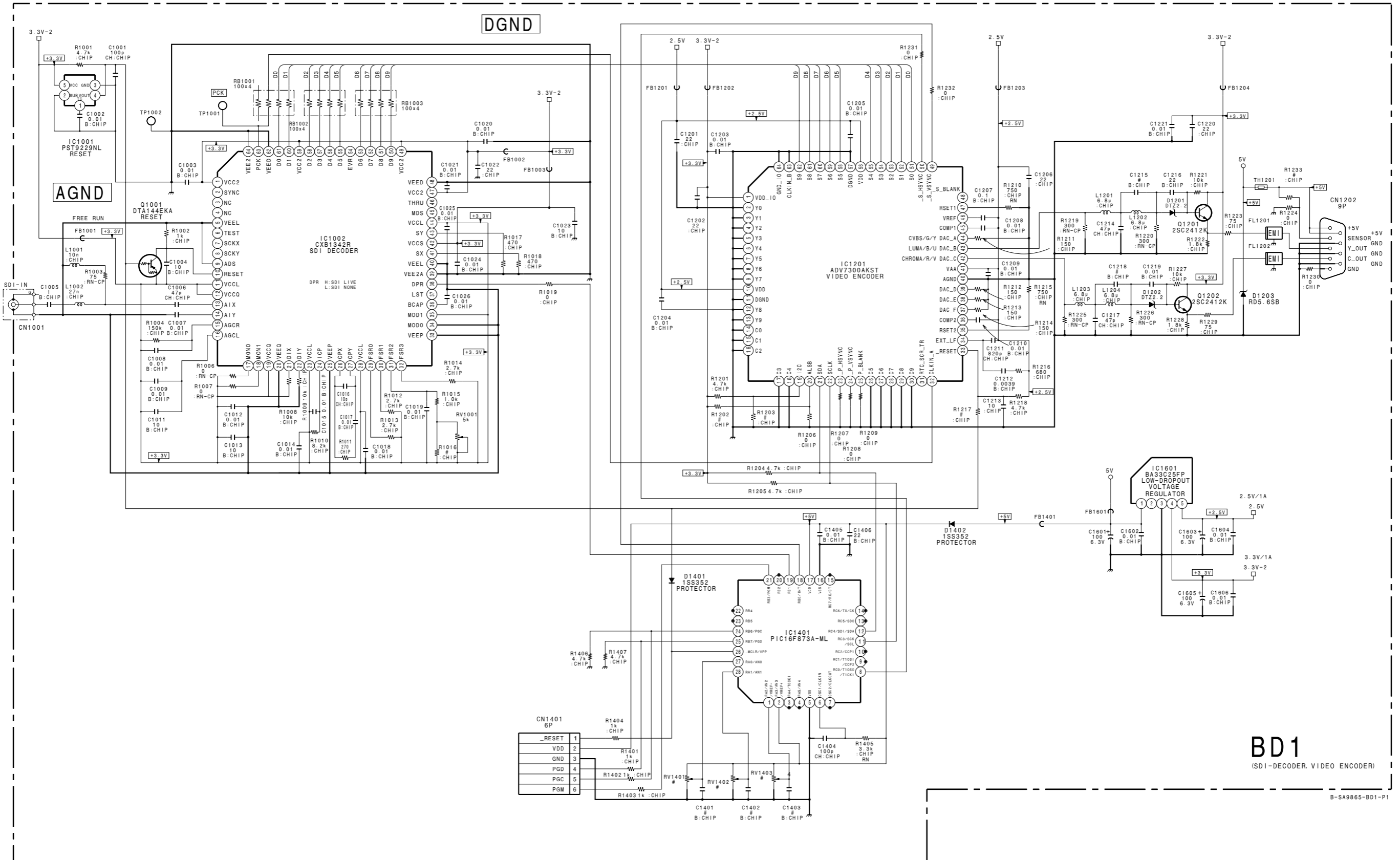
Les composants identifiés par la marque \triangle sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.



BD1 -A SIDE-
SUFFIX: -11



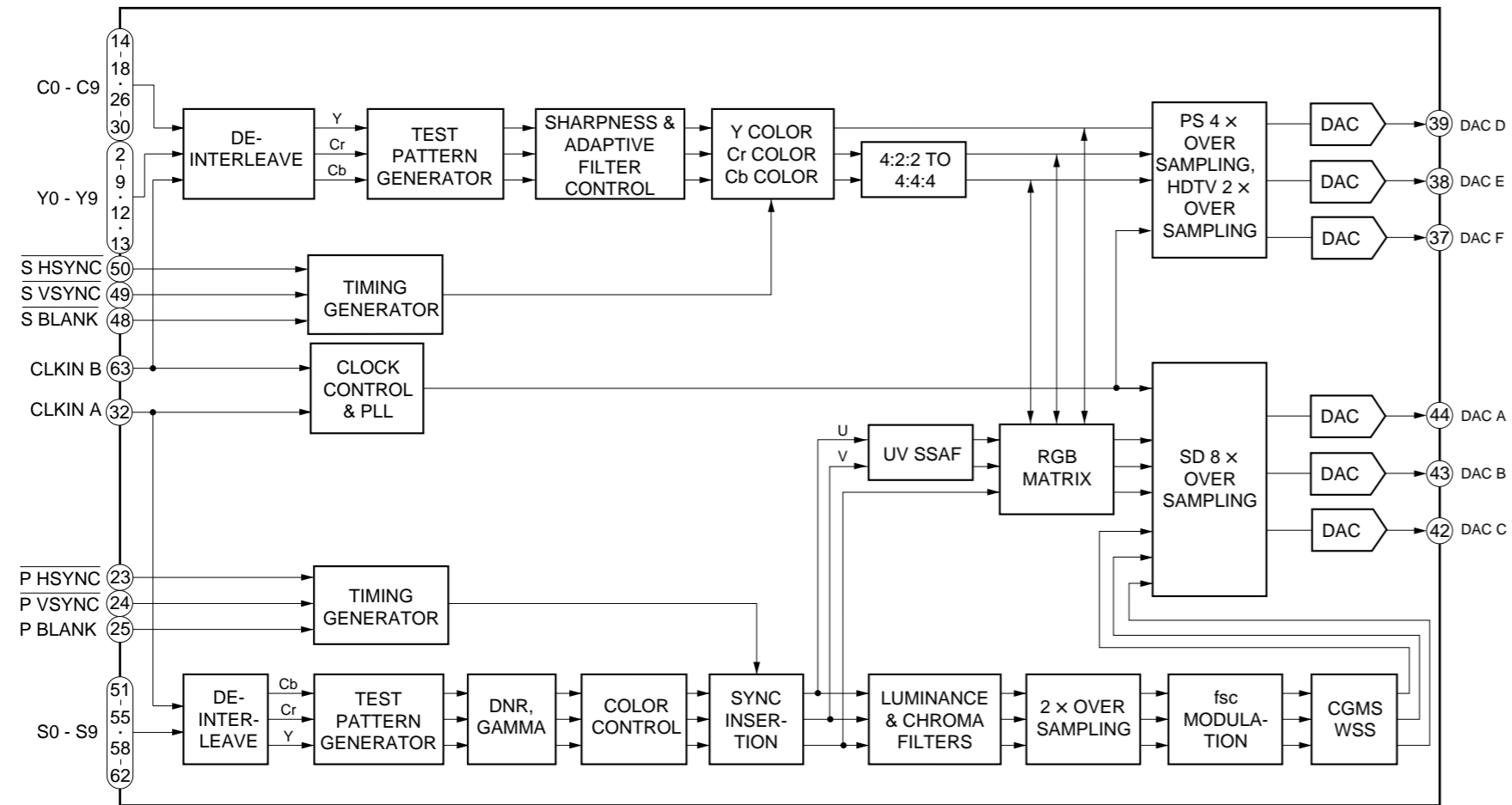
BD1 -B SIDE-
SUFFIX: -11



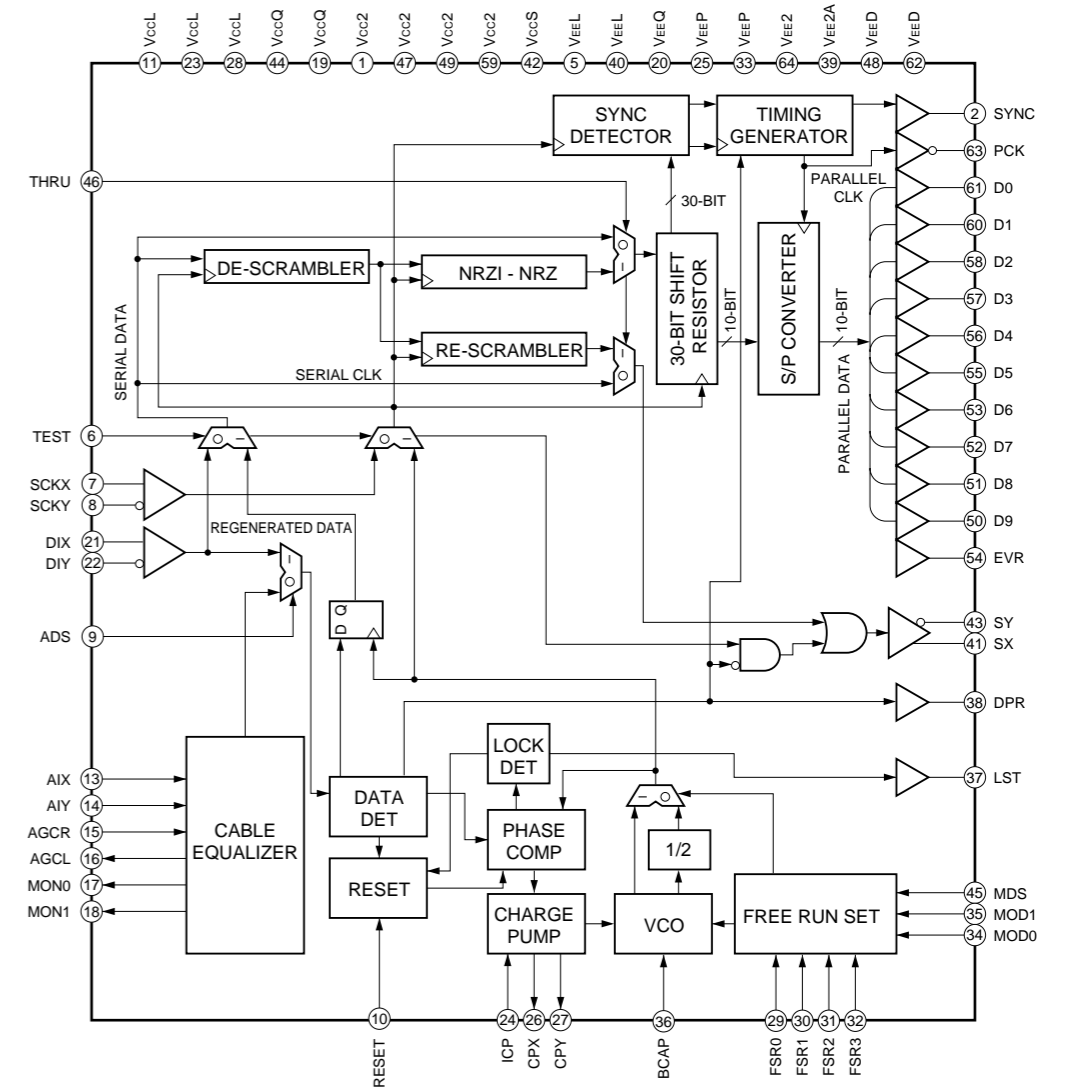
BD1
(SD1-DECODER, VIDEO ENCODER)

B-SA9865-BD1-P1

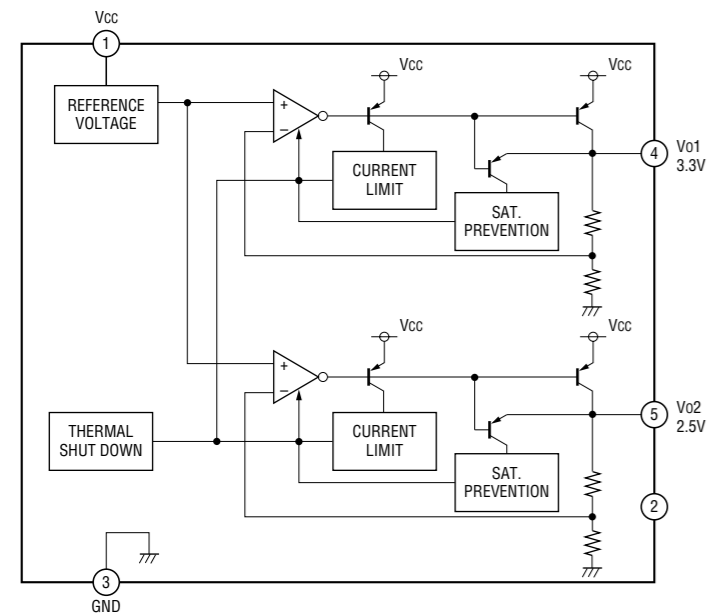
ADV7300 (IC1201)



CXB1342R (IC1002)



BA33C25FP-E2 (IC1601)



PST9229NL (IC1001)

