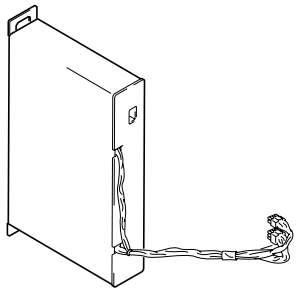
Service Manual



ORDER NO.
ARP3021

DIGITAL TV TUNER
SH-D07

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	SH-D07		
KU	◯	AC120V	

●The service supplied parts are only listed at page 3 and 6.

●The parts listed at page 73 to page 87 are not supplied as a service part.

CONTENTS

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
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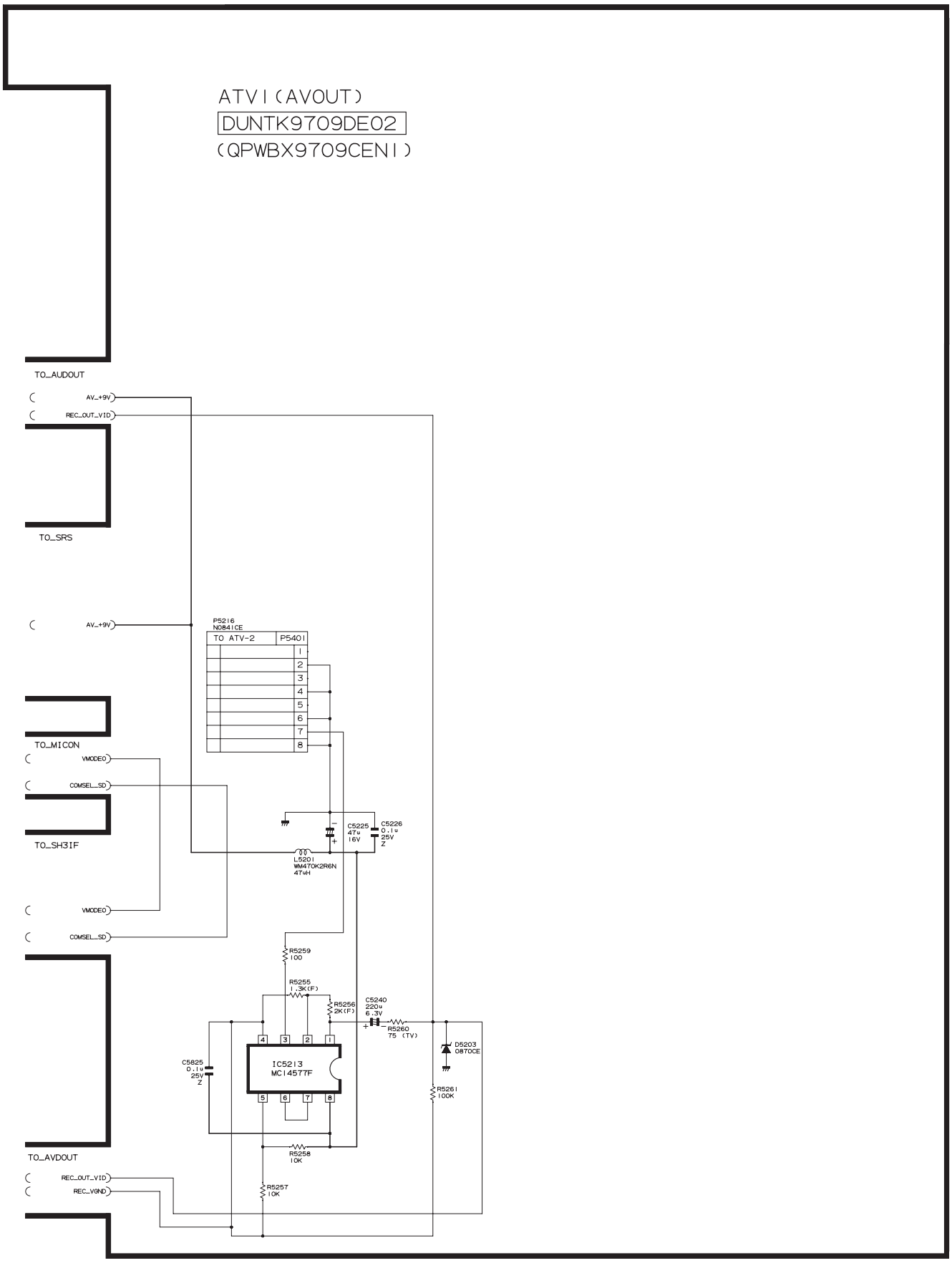
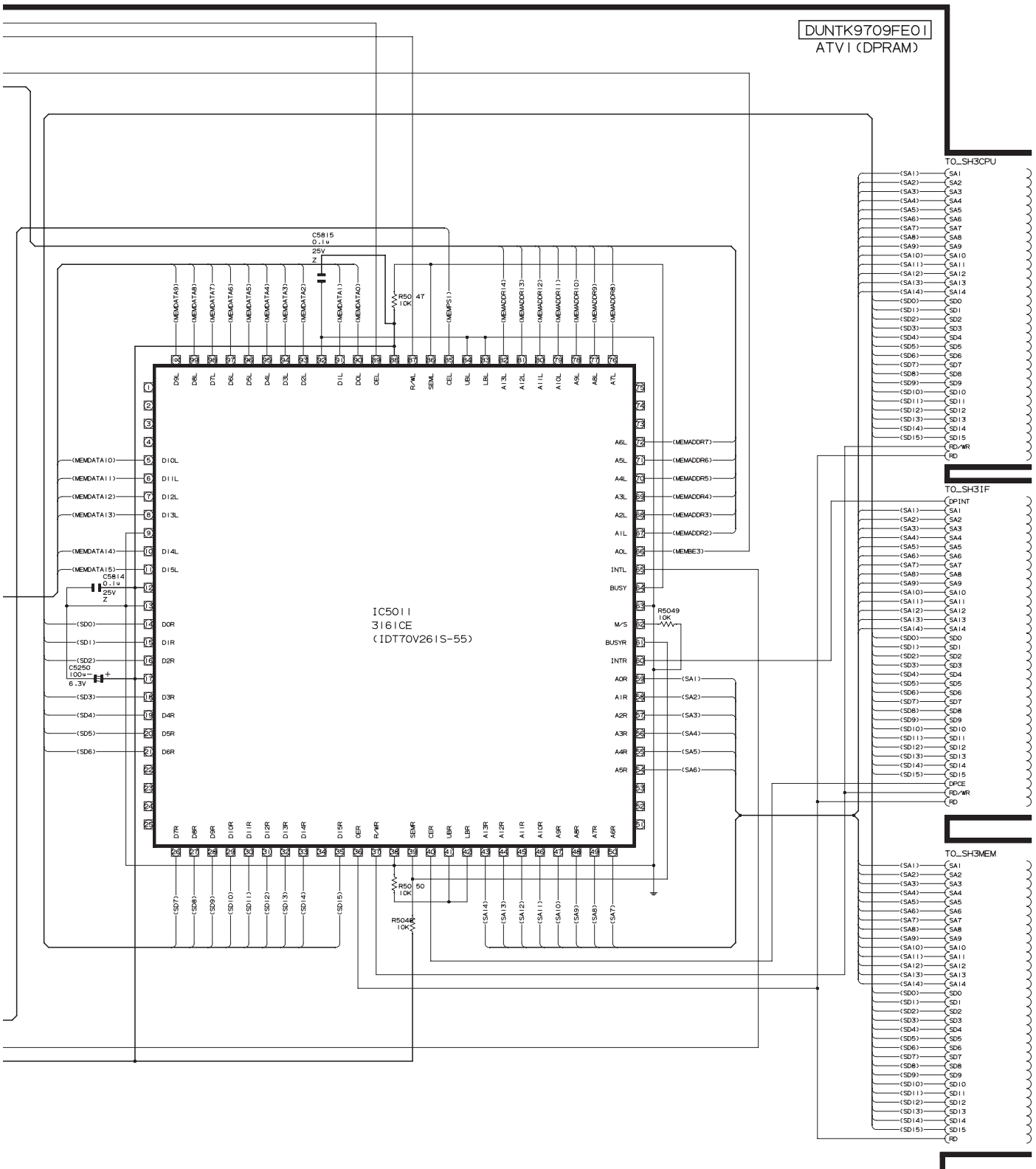
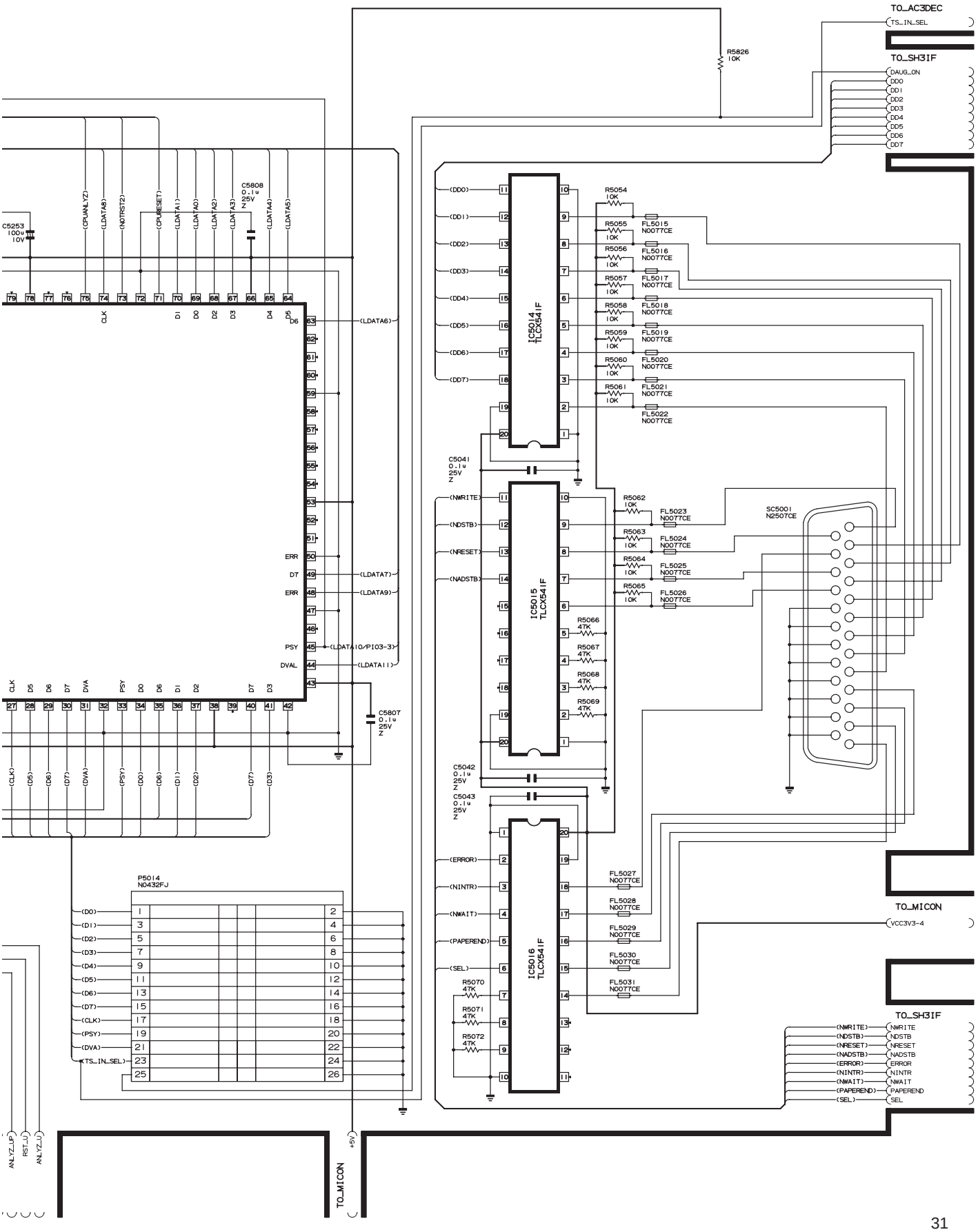
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

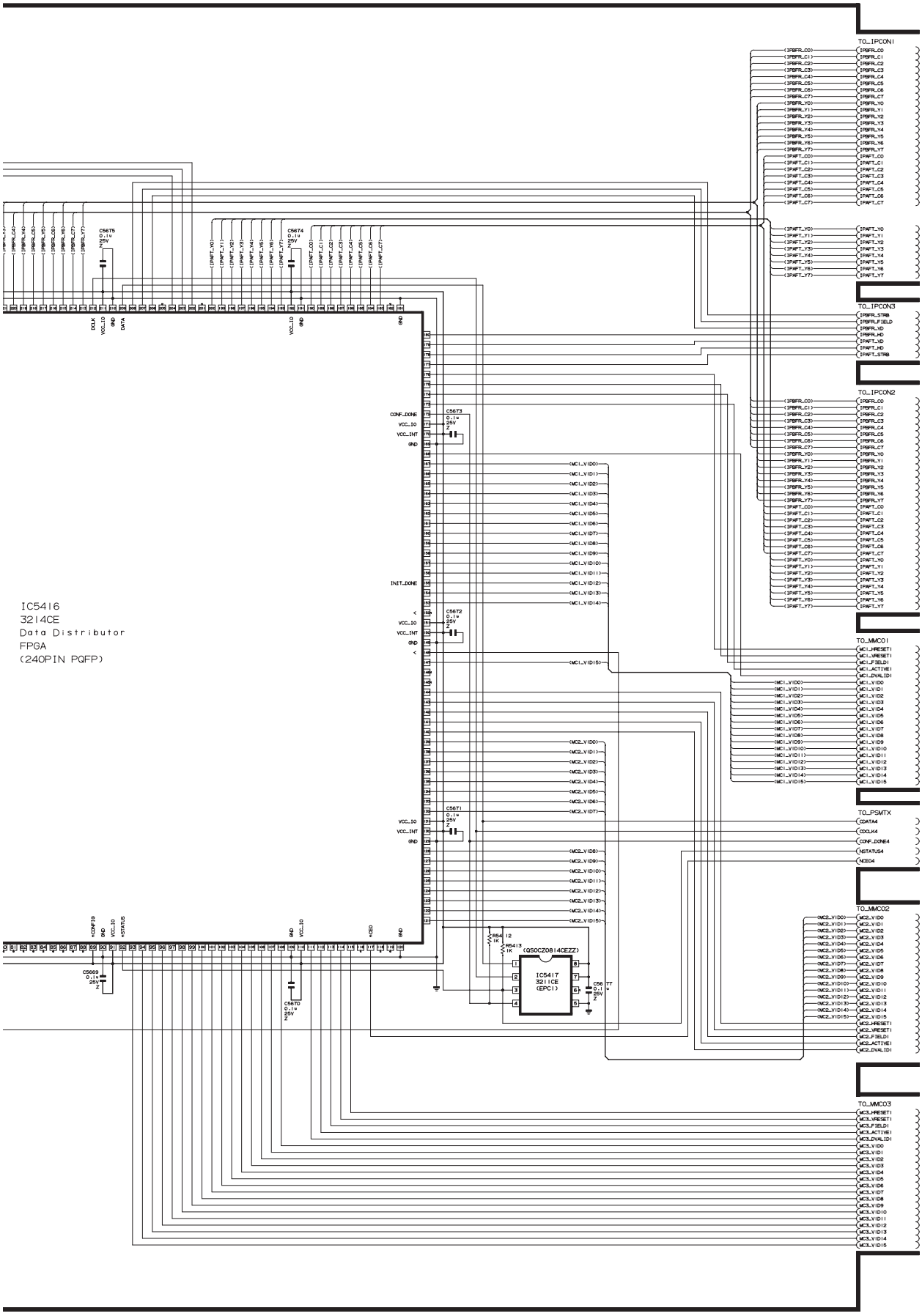
O- ZZS MAR. 1999 Printed in Japan

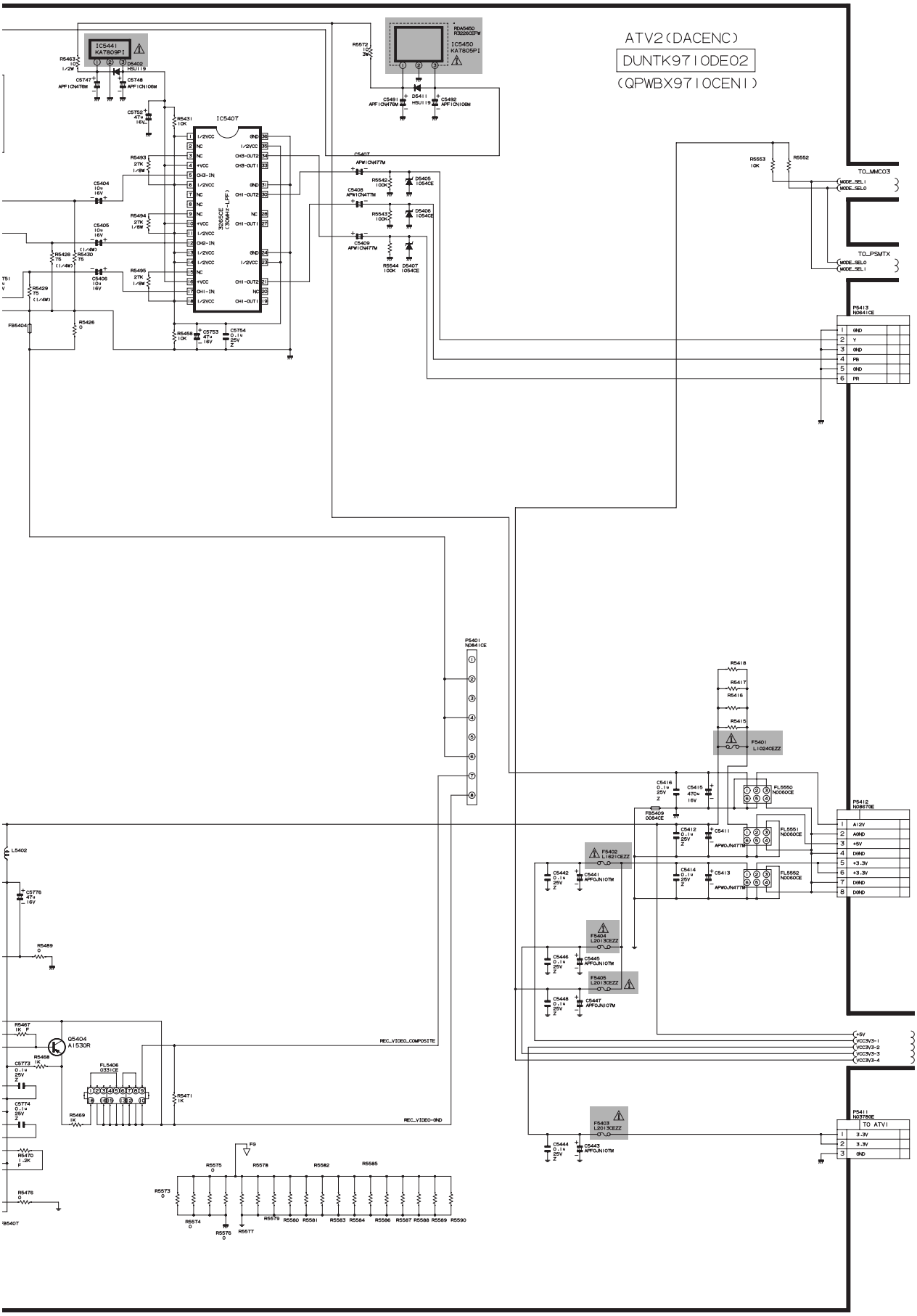
■ ATV-1 UNIT-1/12

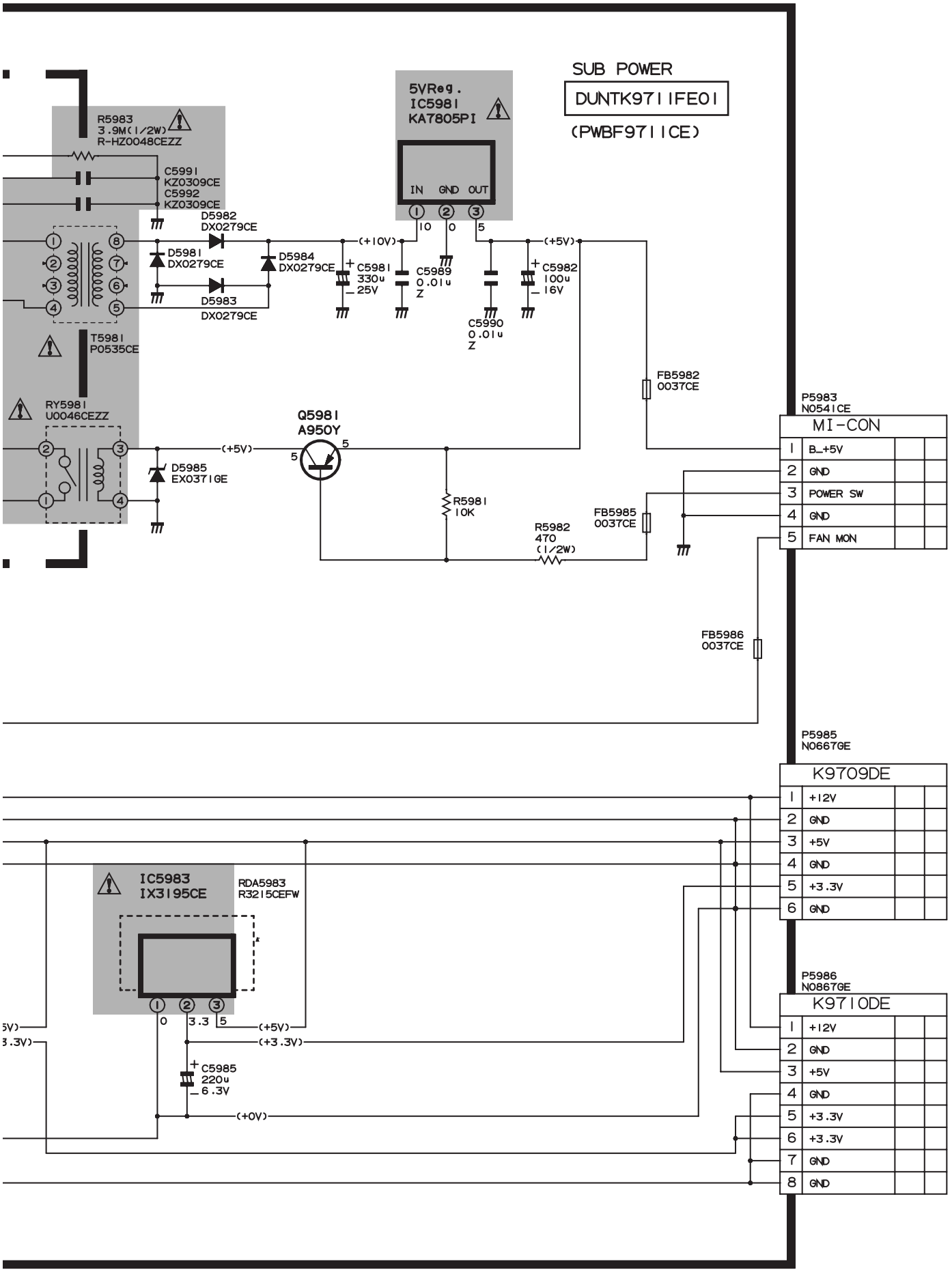



DUNTK9709FE01
ATVI(DPRAM)
IC5011
3161CE
(IDT70V261S-55)
TO_SH3CPU
TO_SH31F
TO_SH3MEM
C5815
0.1u
25V
Z
R50 47
10K
C5814
0.1u
25V
Z
C5250
100u
6.3V
R5049
10K
R5048
10K
R50 50
10K

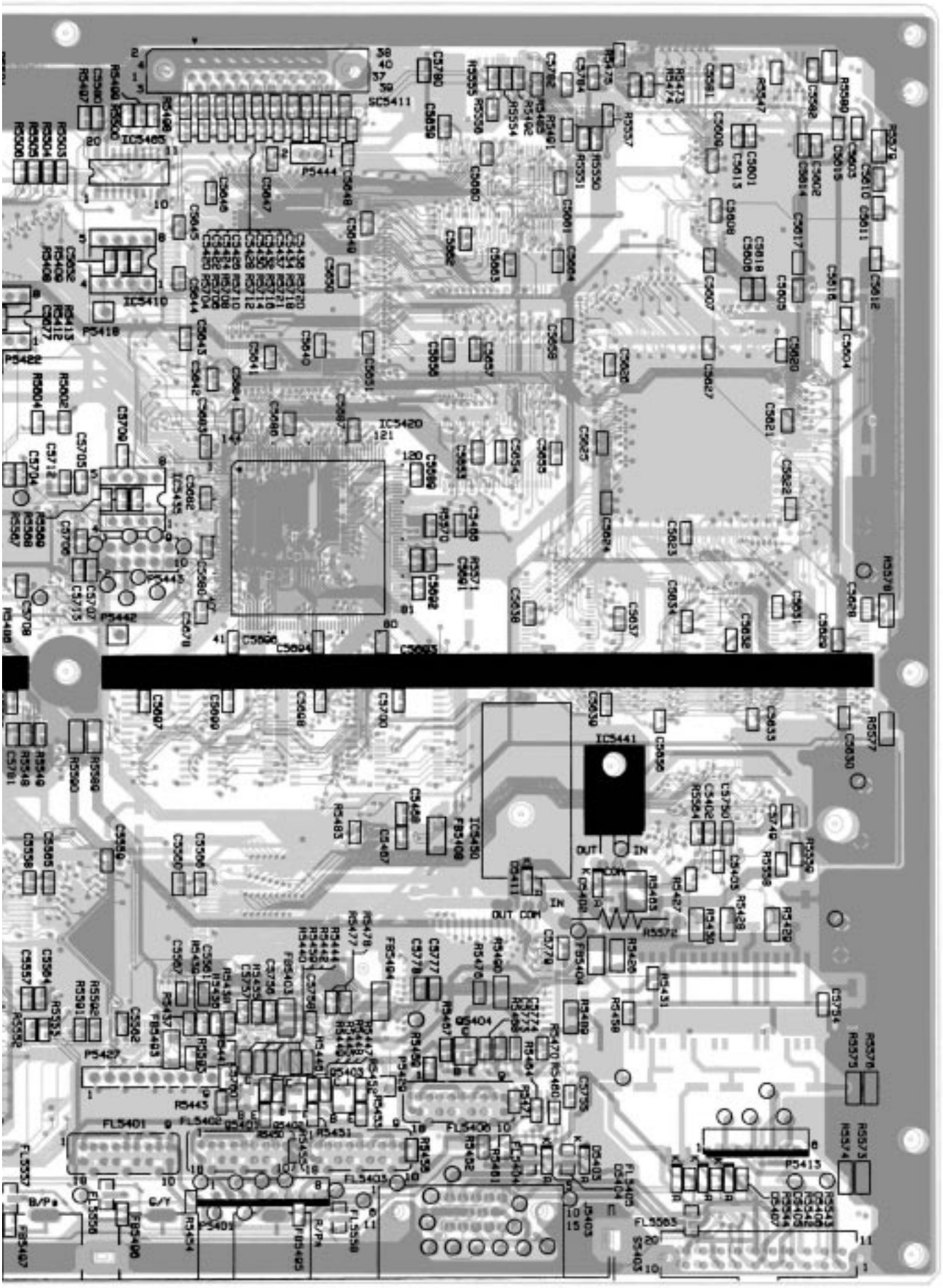

TO_AC3DEC
TS_IN_SEL
TO_SH3IF
DAUG_ON
DD0
DD1
DD2
DD3
DD4
DD5
DD6
DD7
R5826 10K
IC5014 TLCX541F
IC5015 TLCX541F
IC5016 TLCX541F
R5054 10K
R5055 10K
R5056 10K
R5057 10K
R5058 10K
R5059 10K
R5060 10K
R5061 10K
FL5015 N0077CE
FL5016 N0077CE
FL5017 N0077CE
FL5018 N0077CE
FL5019 N0077CE
FL5020 N0077CE
FL5021 N0077CE
FL5022 N0077CE
C5041 0.1u 25V Z
C5042 0.1u 25V Z
C5043 0.1u 25V Z
C5253 100u 10V
C5808 0.1u 25V Z
C5807 0.1u 25V Z
SC5001 N2507CE
R5062 10K
R5063 10K
R5064 10K
R5065 10K
FL5023 N0077CE
FL5024 N0077CE
FL5025 N0077CE
FL5026 N0077CE
R5066 47K
R5067 47K
R5068 47K
R5069 47K
R5070 47K
R5071 47K
R5072 47K
FL5027 N0077CE
FL5028 N0077CE
FL5029 N0077CE
FL5030 N0077CE
FL5031 N0077CE
P5014 N0432FJ
TO_MICON
VCC3V3-4
TO_SH3IF
NWRITE
NDSTB
NRESET
NADSTB
ERROR
NINTR
NWAIT
PAPEREND
SEL
ANLYZ_UP
RST_U
ANLYZ_U
+5V
TO_MICON


IC5416
3214CE
Data Distributor
FPGA
(240PIN PQFP)
TO_IPCON1
TO_IPCON3
TO_IPCON2
TO_MMCO1
TO_PSMTX
TO_MMCO2
TO_MMCO3
IC5417
3211CE
(EPC1)
(QS0CZ0814CEZZ)


ATV2(DACENC)
DUNTK9710DE02
(QPWBX9710CEN1)
IC5441
KAT809PI
IC5450
KAT805PI
IC5407
TO_MMC03
TO_PSMTX
REC_VIDEO_COMPOSITE
REC_VIDEO_GND
TO ATVI


SUB POWER
DUNTK9711FE01
(PWBF9711CE)
5VReg.
IC5981
KA7805PI
IN GND OUT
R5983
3.9M(1/2W)
R-HZ0048CEZZ
C5991
KZ0309CE
C5992
KZ0309CE
D5982
DX0279CE
D5981
DX0279CE
D5984
DX0279CE
D5983
DX0279CE
(+10V)
C5981
330u
25V
C5989
0.01u
Z
C5990
0.01u
Z
(+5V)
C5982
100u
16V
T5981
P0535CE
RY5981
U0046CEZZ
Q5981
A950Y
D5985
EX0371GE
R5981
10K
R5982
470
(1/2W)
FB5982
0037CE
FB5985
0037CE
FB5986
0037CE
P5983
N0541CE
MI-CON
1 B_+5V
2 GND
3 POWER SW
4 GND
5 FAN MON
P5985
N0667GE
K9709DE
1 +12V
2 GND
3 +5V
4 GND
5 +3.3V
6 GND
P5986
N0867GE
K9710DE
1 +12V
2 GND
3 +5V
4 GND
5 +3.3V
6 +3.3V
7 GND
8 GND
IC5983
IX3195CE
RDA5983
R3215CEFW
(+3.3V)
C5985
220u
6.3V
(+0V)

SIDE B **SH-D07**



DUNTK9710FE02
ATV-2 UNIT (Continued)

TRANSISTORS

Ref. No.	Part No.	*	Description	Code
Q5404	VS2SA1530R/-1	J	2SA1530R	AB

DIODES

Ref. No.	Part No.	*	Description	Code
D5402	VHDHSU119//-1	J	Diode	AB
D5405	RH-EX1054CEZZ	J	Zener Diode	AC
D5406	RH-EX1054CEZZ	J	Zener Diode	AC
D5407	RH-EX1054CEZZ	J	Zener Diode	AC
D5411	VHDHSU119//-1	J	Diode	AB

PACKAGED CIRCUITS

Ref. No.	Part No.	*	Description	Code
X5401	RCRSZ0068CEZZ	J	Crystal	AQ
X5402	RCRSZ0068CEZZ	J	Crystal	AQ
X5403	RCRSZ0073CEZZ	J	Crystal	AP

FILTERS

Ref. No.	Part No.	*	Description	Code
FL5406	RFiLC0331CEZZ	J	Filter	AL
FL5407	RCiLF0320CEZZ	J	Coil	BA
FL5550	RFiLN0060CEZZ	J	Filter	AS
FL5551	RFiLN0060CEZZ	J	Filter	AS
FL5552	RFiLN0060CEZZ	J	Filter	AS

CAPACITORS

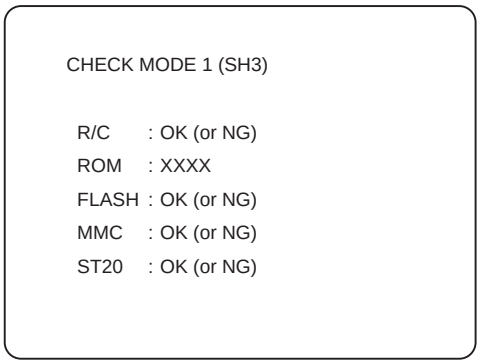
Ref. No.	Part No.	*			Description	Code
C5402	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5403	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5404	VCEAPF1CW106M	J	10	16V	Electrolytic	AB
C5405	VCEAPF1CW106M	J	10	16V	Electrolytic	AB
C5406	VCEAPF1CW106M	J	10	16V	Electrolytic	AB
C5407	VCEAPW1CN477M	J	470	16V	Electrolytic	AE
C5408	VCEAPW1CN477M	J	470	16V	Electrolytic	AE
C5409	VCEAPW1CN477M	J	470	16V	Electrolytic	AE
C5411	VCEAPW0JN477M	J	470	6.3V	Electrolytic	AE
C5412	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5413	VCEAPW0JN477M	J	470	6.3V	Electrolytic	AE
C5414	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5415	VCEAPX1CW477M	J	470	16V	Electrolytic	AE
C5416	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5441	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5442	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5443	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5444	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5445	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5446	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5447	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5448	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5450	RC-EZ0464CEZZ	J	3.3	16V	Electrolytic	AD
C5466	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5467	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5468	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5469	VCEAPF1HN225M	J	2.2	50V	Electrolytic	AD
C5479	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5480	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5481	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5482	VCEAPT1AN107M	J	100	10V	Electrolytic	AD
C5483	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5484	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5485	VCEAPT1AN107M	J	100	10V	Electrolytic	AD
C5486	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5488	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5489	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5490	VCEAPF0JN107M	J	100	6.3V	Electrolytic	AD
C5491	VCEAPF1CN476M	J	47	16V	Electrolytic	AD
C5492	VCEAPF1CN106M	J	10	16V	Electrolytic	AD
C5551	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5552	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5553	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5554	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5557	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5558	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5559	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5560	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5561	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5562	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5564	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5565	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5566	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5567	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5568	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5569	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5570	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5571	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5572	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5573	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5574	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5575	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5576	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5577	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5579	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5580	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5581	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5582	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5583	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5601	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5602	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5603	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5604	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5605	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5606	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5607	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5608	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5609	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5610	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5611	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5612	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5613	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5614	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C5615	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA

■ Check mode

In this mode, the basic performance of the hardware that is connected with the main microprocessor (SH3) is checked up. The check results are displayed on the screen.

1) Check mode screen and switching
   There are three screens for the check mode. Press the SELECT key on the set or the R/C unit, and at each push the three screens get switched one after the other.
2) Limitations with the check mode
   In the check mode, the DTV's basic operation cannot be performed. Check-related control only is possible.
3) Information displayed in the check mode

CHECK MODE 1 screen



CHECK MODE 1 (SH3):
Tells that the set is in the check mode 1. Commands from the SH3 main microprocessor are checked.

R/C:
Shows how well communication is with the R/C unit's microprocessor.
OK: Indicates that the SH3 communicates well with the R/C unit's microprocessor.
NG: Indicates that the SH3 fails to communicate with the R/C unit's microprocessor.

ROM : XXXX :
Sum-checks the ROM. The ROM's sum-check results are displayed via the SH3.

FLASH :
Indicates the condition of the flash.
OK : Indicates that the flash is read correctly.
NG: Indicates that the fixed values on the flash are not correctly read.

MMC:
Checks the MMC's boot-up.
This check goes from the MMC1 to the MMC3.
OK: Indicates that the MMC gets booted correctly.
NG: Indicates that the MMC fails to get booted.

ST20:
Checks the ST20's boot-up.
OK: Indicates that the ST20 gets booted correctly.
NG: Indicates that the ST20 fails to get booted.