# SERVICE MANUAL MODEL DVP-8830

CAUTION: Before servicing this chassis, read the "PRODUCT SAFETY SERVICE FOR VIDEO PRODUCTS" section on page 2 of this manual.

## DVD and CD PLAYER







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#### PRODUCT SAFETY SERVICING GUIDELINES FOR VIDEO PRODUCTS

CAUTION: DO NOT ATTEMPT TO MODIFY THIS PRODUCT IN ANY WAY AND NEVER PERFORM CUSTOMIZED INSTALLATIONS WITHOUT MANUFACTURER'S APPROVAL. UNAUTHORIZED MODIFICATIONS WILL NOT ONLY VOID THE WARRANTY, BUT MAY LEAD TO YOUR BEING LIABLE FOR ANY RESULTING PROPERTY DAMAGE OR USER INJURY.

SERVICE WORK SHOULD BE PERFORMED ONLY AFTER YOU ARE THOROUGHLY FAMILIAR WITH ALL OF THE FOLLOWING SAFETY CHECKS AND SERVICING GUIDELINES. TO DO OTHERWISE, INCREASES THE RISK OF POTENTIAL HAZARDS AND INJURY TO THE USER

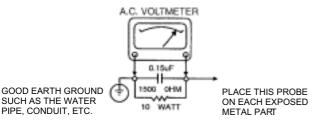
WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM A.C. LINE SHOCK.

#### SAFETY CHECKS

AFTER THE ORIGINAL SERVICE PROBLEM HAS BEEN CORRECTED, A CHECK SHOULD BE MADE OF THE FOLLOWING.

#### SUBJECT: FIRE & SHOCK HAZARD

- 1. BE SURE THAT ALL COMPONENTS ARE POSITIONED IN SUCH A WAY AS TO AVOID POSSIBILITY OF ADJACENT COMPONENT SHORTS. THIS IS ESPECIALLY IMPORTANT ON THOSE MODULES WITCH ARE TRANSPORTED TO AND FROM THE REPAIR SHOP.
- 2. NEVER RELEASE A REPAIR UNLESS ALL PROTECTIVE DEVICES SUCH AS INSULATORS, BARRIERS, COVERS, SHIELDS, STRAIN RELIEFS, POWER SUPPLY CORDS, AND OTHER HARDWARE HAVE BEEN REINSTALLED PER ORIGINAL DESIGN. BE SURE THAT THE SAFETY PURPOSE OF THE POLARIZED LINE PLUG HAS NOT BEEN DEFEATED.
- SOLDERING MUST BE INSPECTED TO DISCOVER POSSIBLE COLD SOLDER JOINTS, SOLDER SPLASHES OR SHARP SOLDER POINTS. BE CERTAIN TO REMOVE ALL LOOSE FOREIGN PARTICLES.
- CHECK FOR PHYSICAL EVIDENCE DF DAMAGE OR DETERIORATION TO PARTS AND COMPONENTS, FOR FRAYED LEADS AND DAMAGED INSULATION (INCLUDING A.C. CORD), AND REPLACE IF NECESSARY FOLLOW ORIGINAL LAYOUT, LEAD LENGTH AND DRESS.
- 5. NO LEAD OR COMPONENT SHOULD TOUCH A RECEIVING TUBE OR A RESISTOR RATED AT 1 WATT OR MORE. LEAD TENSION AROUND PROTRUDING METAL SURFACES MUST BE AVOIDED.
- 6. ALL CRITICAL COMPONENTS SUCH AS FUSES. FLAMEPROOF RESISTORS, CAPACITORS, ETC. MUST BE REPLACED WITH EXACT FACTORY TYPES, DO NOT USE REPLACEMENT COMPONENTS OTHER THAN THOSE SPECIFIED OR MAKE UNRECOMMENDED CIRCUIT MODIFICATIONS.
- 7. AFTER RE-ASSEMBLY OF THE SET, ALWAYS PERFORM AN A.C. LEAKAGE TEST ON ALL EXPOSED METALLIC PARTS OF THE CABINET, (THE CHANNEL SELECTOR KNOB, ANTENNA TERMINALS. HANDLE AND SCREWS) TO BE SURE THE SET IS SAFE TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST, MAKE SURE TO USE AN A.C. VOLTMETER. HAVING 5000 OHMS PER VOLT OR MORE SENSITIVITY, IN THE FOLLOWING MANNER; CONNECT A 1500 OHMS 10 WATT RESISTOR, PARALLELED BY A.15 MFD. 150V A.C. TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH A.15 MFD. 150V A.C. 17PE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER PIPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME. MEASURE THE A.C. VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND 15 MFD CAPACITOR. REVERSE THE A.C. PLUG AND REPEAT A.C. ANY VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART. VOLTAGE MEASURED MUST NOT EXCEED 75 VOLTS R.M.S. THIS CORRESPONDS TO 0.5 MILLIAMP A.C. ANY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.



#### SUBJECT GRAPHIC SYMBOLS

PIPE, CONDUIT, ETC.



THE LIGHTNING FLASH WITH APROWHEAD SYMBOL. WITHIN AN FOUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.



THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION IN SERVICE LITERATURE.

#### SUBJECT: X-RADIATION

- 1. BE SURE PROCEDURES AND INSTRUCTIONS TO ALL SERVICE PERSONNEL COVER THE SUBJECT OF X-RADIATION. THE ONLY POTENTIAL SOURCE OF X-RAYS IN CURRENT T.V. RECEIVERS IS THE PICTURE TUBE. HOWEVER, THIS TUBE DOES NOT EMIT X-RYS WHEN THE HIGH VOLTAGE IS AT THE FACTORY SPECIFIED LEVEL. THE PROPER VALUE IS GIVEN IN THE APPLICABLE SCHEMATIC. OPERATION AT HIGHER VOLTAGES MAY CAUSE A FAILURE OF THE PICTURE TUBE OR HIGH VOLTAGE SUPPLY AND, UNDER CERTAIN CIRCUMSTANCES, MAY PRODUCE RADIATION IN EXCESS OF
- ONLY FACTORY SPECIFIED C.R.T ANODE CONNECTORS MUST BE USED. DEGAUSSING SHIELDS ALSO SERVE AS AN X-RAY SHIELD IN COLOR SETS, ALWAYS RE-INSTALL THEM.
- IT IS ESSENTIAL THAT SERVICE PERSONNEL HAVE AVAILABLE AN ACCURATE AND RELIABLE HIGH VOLTAGE METER. THE CALIBRATION OF THE METER SHOULD BE CHECKED PERIODICALLY AGAINST A REFERENCE STANDARD, SUCH AS THE ONE AVAILABLE AT YOUR
- . WHEN THE HIGH VOLTAGE CIRCUITRY IS OPERATING PROPERLY, THERE IS NO POSSIBILITY OF AN X-RADIATION PROBLEM. EVERY TIME A COLOR CHASSIS IS SERVICED, THE BRIGHTNESS SHOULD BE RUN UP AND DOWN WHILE MONITORING THE HIGH VOLTAGE WITH A METER TO BE CERTAIN THAT THE HIGH VOLTAGE DOES NOT EXCEED THE SPECIFIED VALUE AND THAT IT IS REGULATING CORRECTLY. WE SUGGEST THAT YOU AND YOUR SERVICE ORGANIZATION REVIEW TEST PROCEDURES SO THAT VOLTAGE REGULATION IS ALWAYS CHECKED AS A STANDARD SERVICING PROCEDURE AND THAT THE HIGH VOLTAGE READING BE RECORDED ON EACH CUSTOMER'S INVOICE
- 5. WHEN TROUBLESHOOTING AND MAKING TEST MEASUREMENTS IN A PRODUCT WITH A PROBLEM OF EXCESSIVE HIGH VOLTAGE A/OID BEING UNNECESSARILY CLOSE TO THE PICTURE TUBE AND THE HIGH VOLTAGE SUPPLY DO NOT OPERATE THE PRODUCT LONGER THAN IT IS NECESSARY TO LOCATE THE CAUSE OF EXCESSIVE VOLTAGE.
- REFER TO HV. B+ AND SHUTDOWN ADJUSTMENT PROCEDURES DESCRIBED IN THE APPROPRIATE SCHEMATIC AND DIAGRAMS(WHERE

#### SUBJECT: IMPLOSION

- 1. ALL DIRECT VIEWED PICTURE TUBES ARE EQUIPPED WITH AN INTEGRAL IMPLOSION PROTECTION SYSTEM, BUT CARE SHOULD BE TAKEN TO AVOID DAMAGE DURING INSTALLATION, AVOID SCRATCHING THE TUBE. IF SCRATCHED REPLACE IT
- 2. USE ONLY RECOMMENDED FACTORY REPLACEMENT TUBES.

#### SUBJECT: TIPS ON PROPER INSTALLATION

- NEVER INSTALL ANY PRODUCT IN A CLOSED-IN RECESS. CUBBYHOLE OR CLOSELY FITTING SHELF SPACE, OVER OR CLOSE TO HEAT DUCT, OR IN THE PATH OF HEATED AIR FLOW.
- AVOID CONDITIONS OF HIGH HUMIDITY SUCH AS: OUTDOOR PATIO INSTALLATIONS WHERE DEW IS A FACTOR, NEAR STEAM RADIATORS WHERE STEAM LEAKAGE IS A FACTOR, ETC.
- AVOID PLACEMENT WHERE DRAPERIES MAY OBSTRUCT REAR VENTING. THE CUSTOMER SHOULD ALSO AVOID THE USE OF DECORATIVE SCARVES OR OTHER COVERINGS WHICH MIGHT OBSTRUCT VENTILATION.
- WALL AND SHELF MOUNTED INSTALLATIONS USING A COMMERCIAL MOUNTING KIT, MUST FOLLOW THE FACTORY APPROVED MOUNTING INSTRUCTIONS. A PRODUCT MOUNTED TO A SHELF OR PLATFORM MUST RETAIN ITS ORIGINAL FEET (OR THE EQUIVALENT THICKNESS IN SPACERS) TO PROVIDE ADEQUATE AIR FLOW ACROSS THE BOTTOM. BOLTS OR SCREWS USED FOR FASTENERS MUST NOT TOUCH ANY PARTS OR WIRING. PERFORM LEAKAGE TEST ON CUSTOMIZED INSTALLATIONS.
- CAUTION CUSTOMERS AGAINST THE MOUNTING OF A PRODUCT ON SLOPING SHELF OR A TILTED POSITION, UNLESS THE PRODUCT IS PROPERLY SECURED.
- A PRODUCT ON A ROLL-ABOUT CART SHOULD BE STABLE ON ITS MOUNTING TO THE CART CAUTION THE CUSTOMER ON THE HAZARDS OF TRYING TO ROLL A CART WITH SMALL CASTERS ACROSS THRESHOLDS OR DEEP PILE CARPETS.
- 7. CAUTION CUSTOMERS AGAINST THE USE OF A CART OR STAND WHICH HAS NOT BEEN LISTED BY UNDERWRITERS LABORATORIES, INC. FOR USE WITH THEIR SPECIFIC MODEL OF TELEVISION RÉCEIVER OR GENERICALLY APPROVED FOR USE WITH TV'S OF THE SAME OR LARGER SCREEN SIZE.
- 8. CAUTION CUSTOMERS AGAINST THE USE OF EXTENSION CORDS. EXPLAIN THAT A FOREST OF EXTENSIONS SPROUTING FROM A SINGLE OUTLET CAN LEAD TO DISASTROUS CONSEQUENCES TO HOME AND FAMILY.

### SERVICING PRECAUTIONS

CAUTION: Before servicing the DVD covered by this service data and its supplements and ADDENDUMS, read and follow the SAFETY PRECAUTIONS NOTE: if unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions in this publications, always follow the safety precautions.

Remember Safety First:

#### **General Servicing Precautions**

- Always unplug the DVD AC power cord from the AC power source before:
  - (1) Removing or reinstalling any component, circuit board, module, or any other assembly.
  - (2) Disconnection or reconnecting any internal electrical plug or other electrical connection.
  - (3) Connecting a test substitute in parallel with an electrolytic capacitor
    - **Caution**: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
- Do not spray chemicals on or near this DVD or any of its assemblies.
- 3. Unless specified otherwise in this service data, clean electrical contacts by applying an appropriate contact cleaning solution to the contacts with a pipe cleaner, cotton-tipped swab, or comparable soft applicator.
  - Unless specified otherwise in this service data, lubrication of contacts is not required.
- Do not defeat any plug/socket B+ voltage interlocks with witch instruments covered by this service manual might be equipped.
- Do not apply AC power to this DVD and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
- 6. Always connect test instrument ground lead to the appropriate ground before connection the test instrument positive lead. Always remove the test instrument ground lead last.

#### **Insulation Checking Procedure**

Disconnect the attachment plug trom the AC outlet and turn the power on. Connect an insulation resistance meter(500V) to the blades of the attachment plug. The insulation resistance between each blade of the attachment plug and accessible conductive parts (Note 1) should be more than 1M ohm.

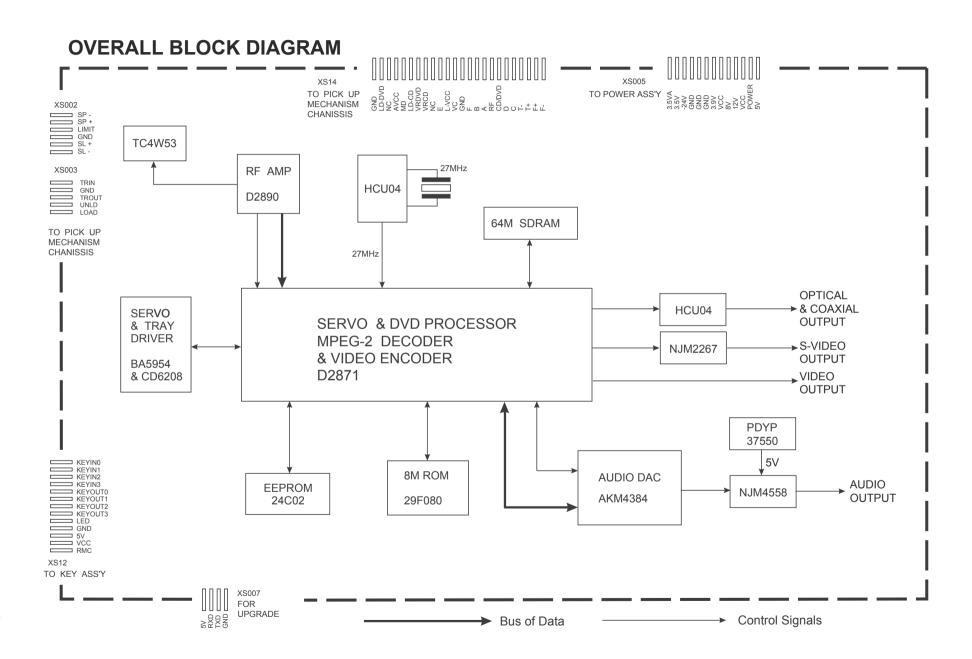
**Note 1**: Accessible Conductive Parts including Metal panels, input terminals, Earphone jacks, etc.

#### **Electrostatically Sensitive (ES) Devices**

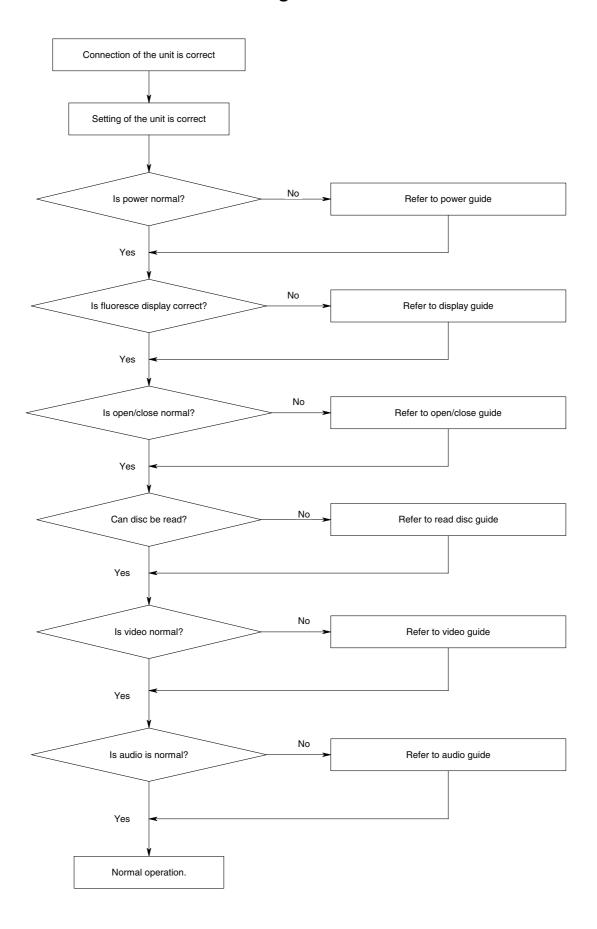
Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field effect transistors and semiconductor chip components.

The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

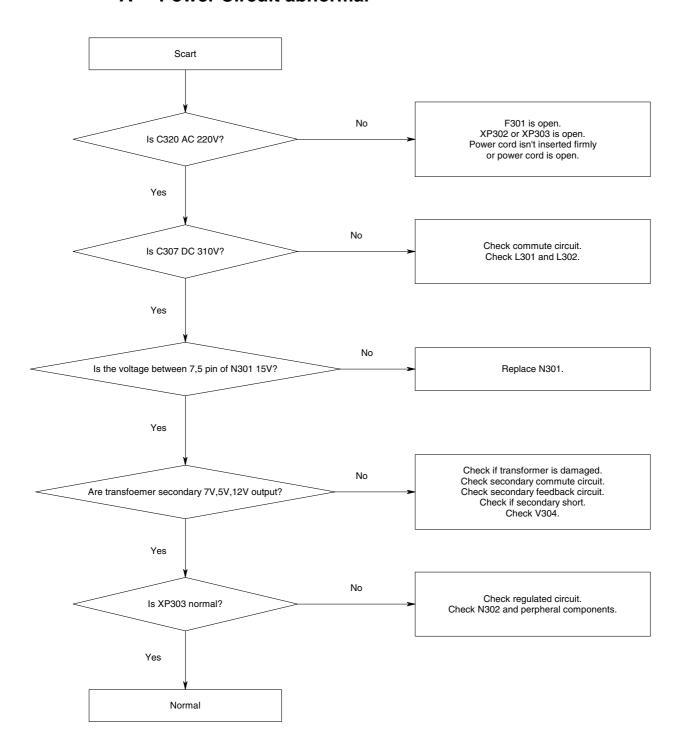
- 1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
- 2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum toil, to prevent electrostatic charge buildup or exposure of the assembly.
- 3. Use only a GROUNDED-tip soldering iron to solder or unsolder ES devices.
- Use only an anti-static solder removal device. Some solder removal devices not classified a "anti-static" can generate electrical charges sufficient to damage ES devices.
- Do not use freon-propelled chemicals. These can generate electrical charge sufficient to damage ES devices.
- Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil, or comparable conductive material.)
- Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
  - Caution: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
- 8. Minimize bodily motions when handling unpackaged replacement ES devices. (Normally harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)



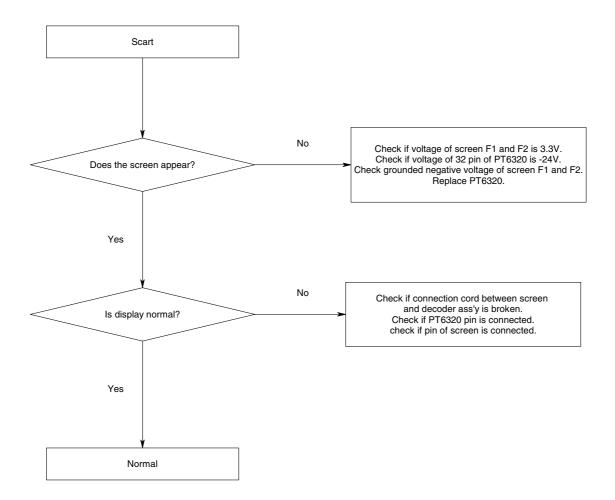
## **Electrical Trouble Shooting Guide**



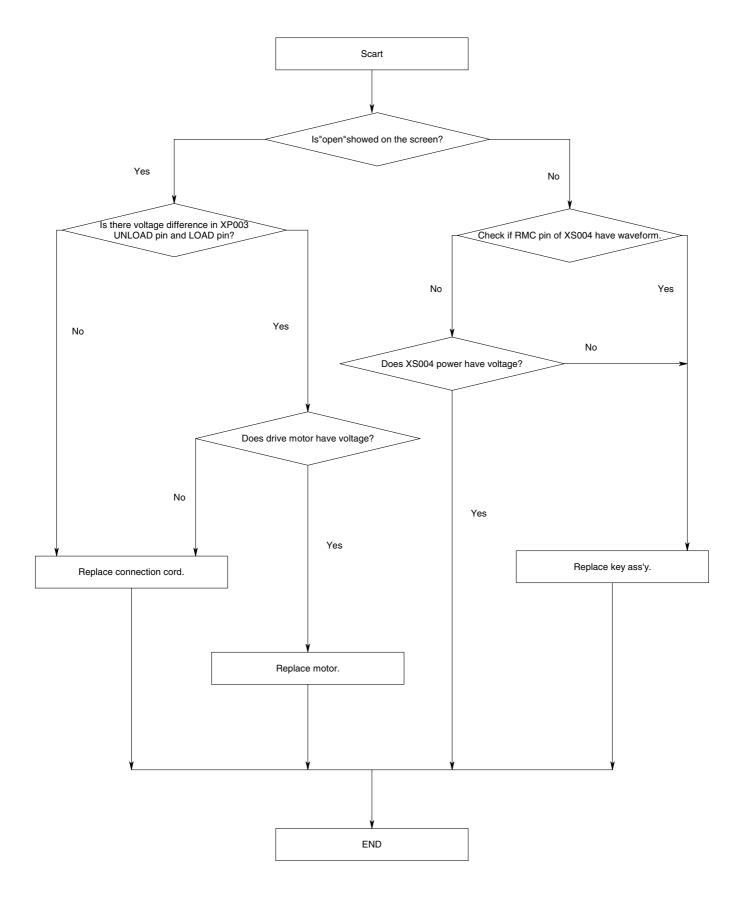
## A Power Circuit abnormal



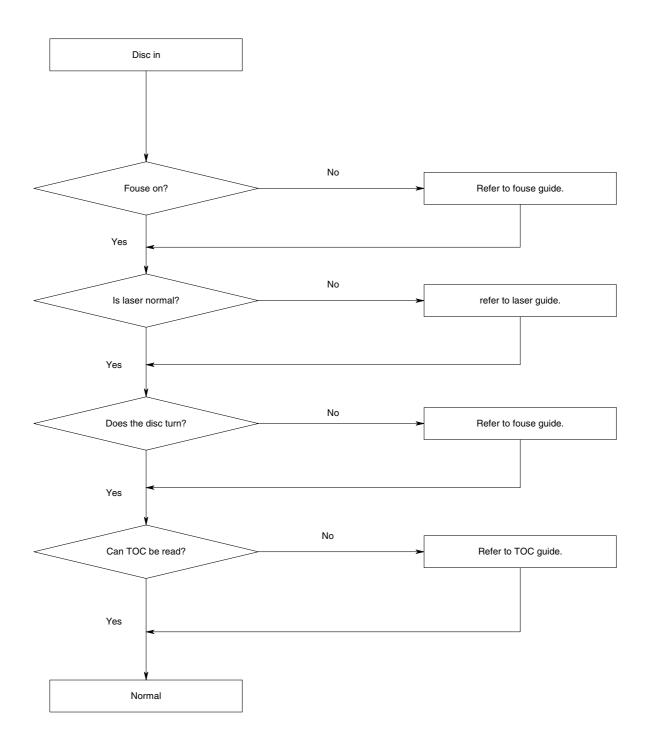
## **B** Display abnormal



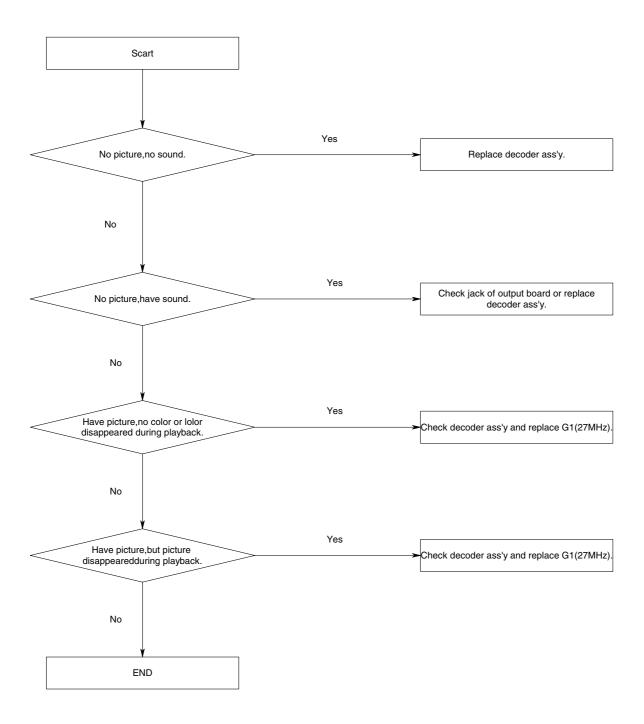
## C Open/close abnormal



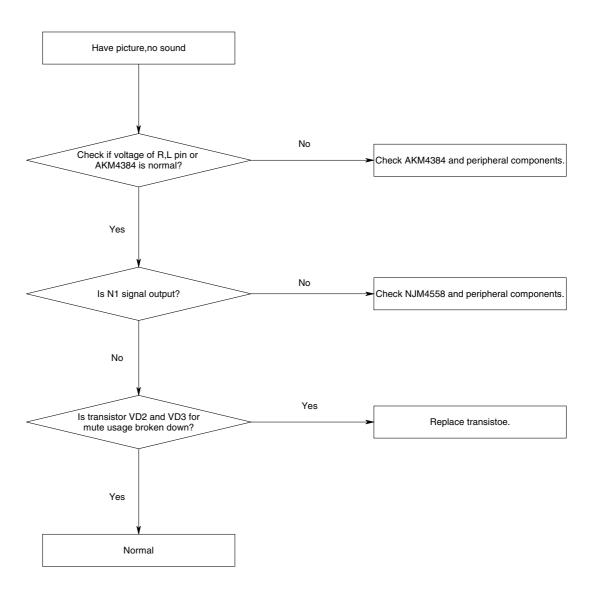
## D Read disc abnormal



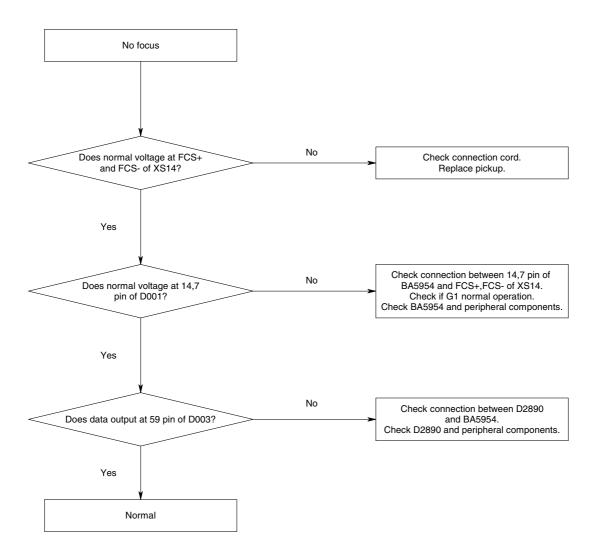
## E Video abnormal



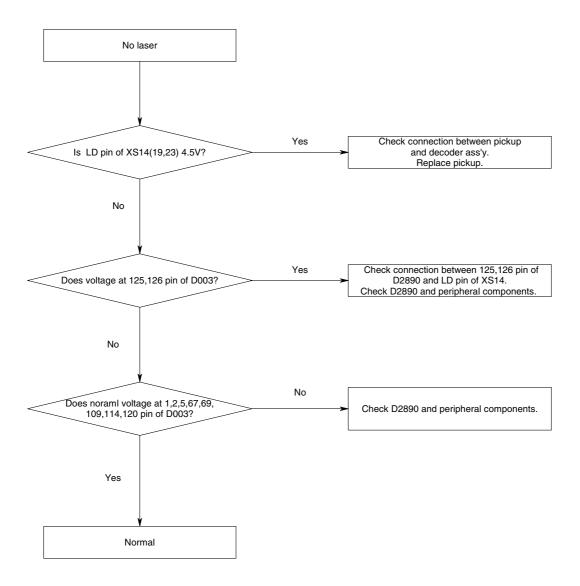
## F Audio abnormal



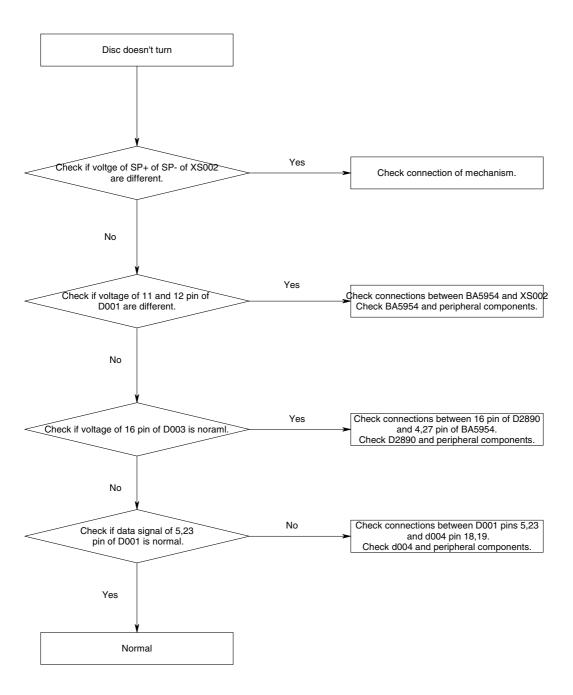
#### G Focus abnormal



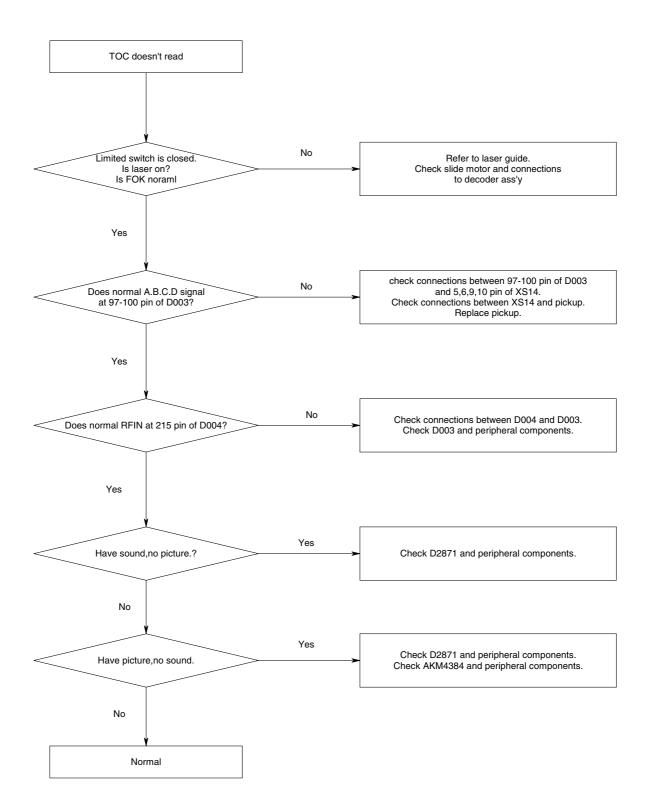
#### **H** Laser abnormal

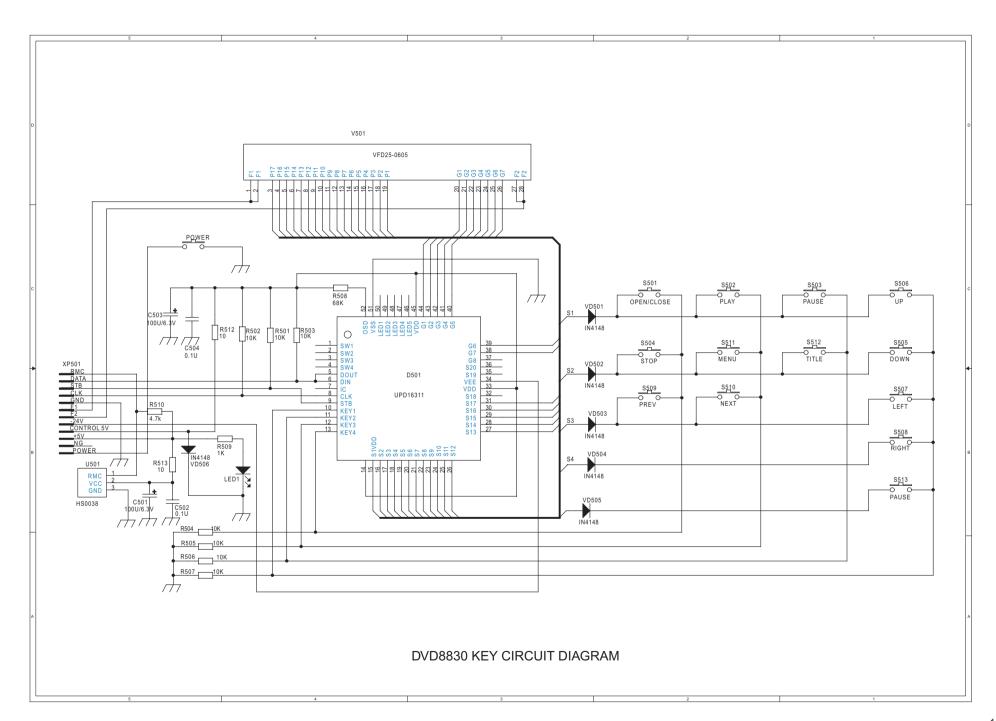


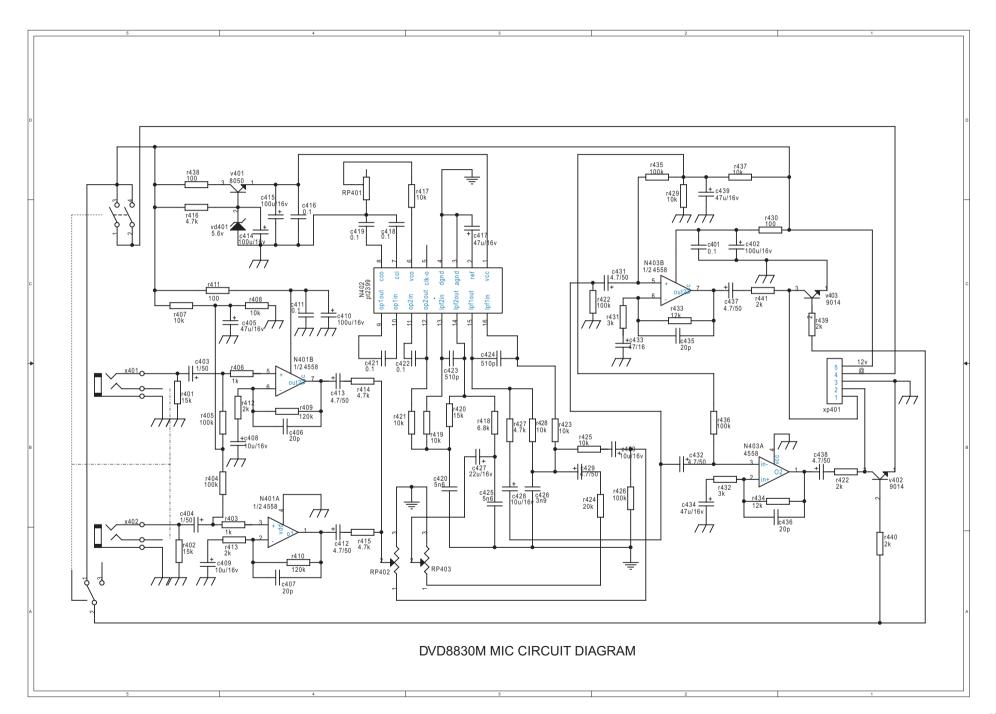
#### I Turn abnormal

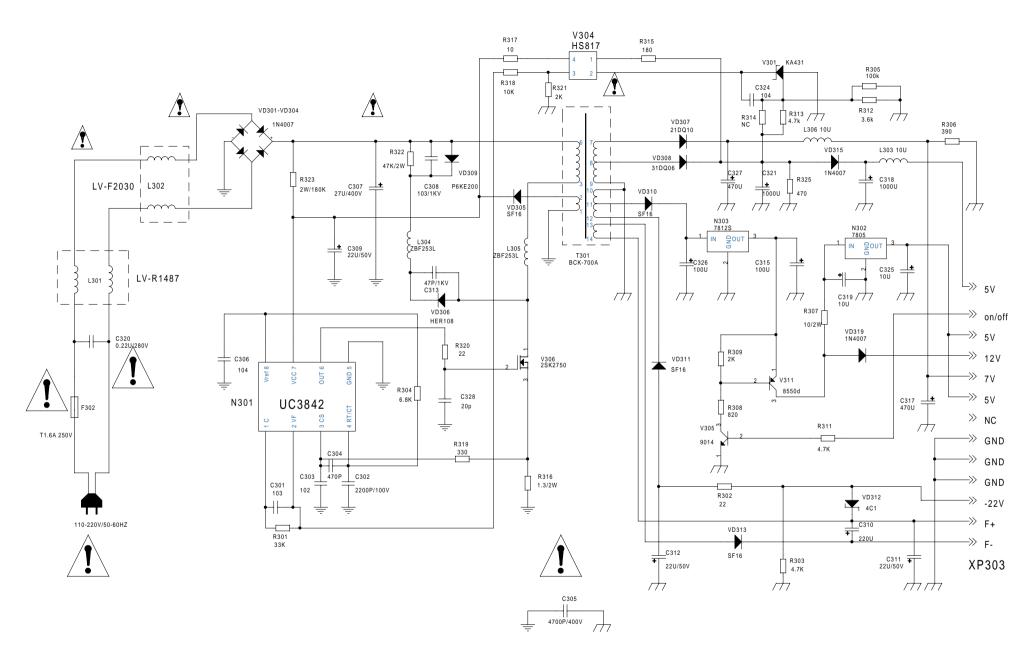


#### J TOC abnormal

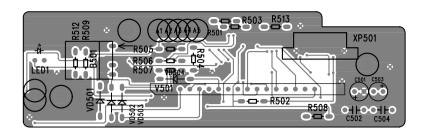


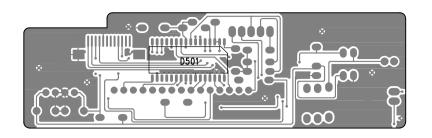


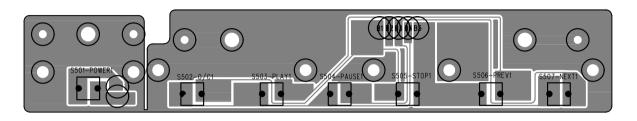




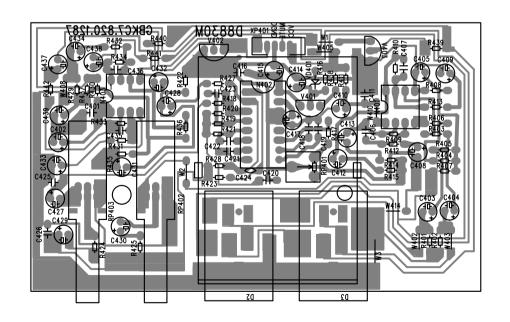
AD81NAH-L POWER CIRCUIT DIAGRAM

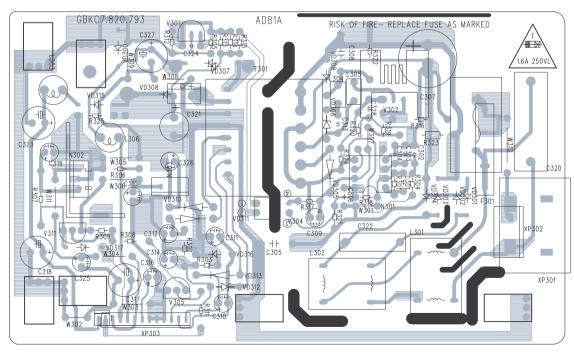


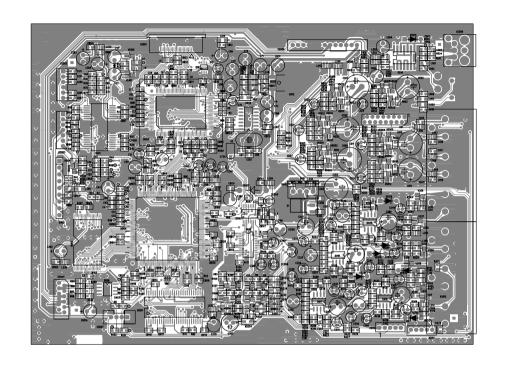


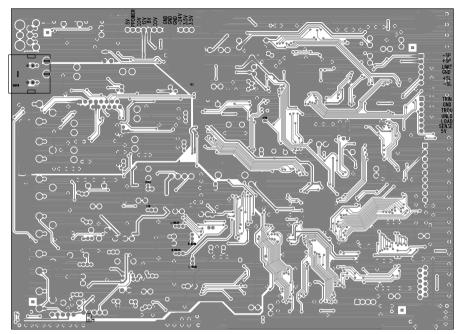


D8830K KEY BOARD DIAGRAM

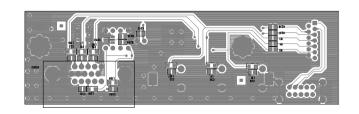


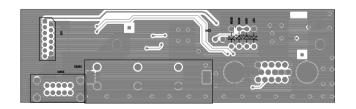






## DHB706PSM DECODER BOARD DIAGRAM





PB80 PROGRESSIVE SCAN BOARD DIAGRAM

## **ELECTRICAL PARTS LIST**

PART No.	PART NAME	Q'TY		
	DVP-8830			
21307	DHB706PSM DECODER ASS'Y	1		
21130	PB80V PS ASS'Y	1		
S7244-4	AD81NAH-L POWER ASS'Y	1		
S7445	D8830KNH KEY ASS'Y	1		
S7446	D8830M MIC ASS'Y	1		
S2701	7# BATTERY	2		
S2672	VDE POWER CORD	1		
S8095a	KHL-250 LOADING ASS'Y	1		
S3024	POWER CORD HOLE	1		
S1670a	DVP8830 OWNER MANUAL	1		
S3022	RCA CORD VIDEO	1		
S3035	RCA CORD AUDIO	1		
S3142	CC-1.0×12×100	1		
S3251j	CC-0.5×24×185-MT(8+/-0.5)	1		
S3467	KHL-DV34 LOADING WIRE 1			
S3657	CC-1.0×12×400 1			
S8501	SCART JACK	1		
S0692e	RC-380H REMOTE CONTROLLER	1		

REF No.	PART No.	PART NAME
	D8830I	KNH KEY ASS'Y
TACT		
S501	G6434	TACT EVQ21504M(4.5mm)
S502	G6434	TACT EVQ21504M(4.5mm)
S503	G6434	TACT EVQ21504M(4.5mm)
S504	G6434	TACT EVQ21504M(4.5mm)
S505	G6434	TACT EVQ21504M(4.5mm)
S506	G6434	TACT EVQ21504M(4.5mm)
S507	G6434	TACT EVQ21504M(4.5mm)
	C	APACITOR
C501	a3540	CD110-6.3V-100uF±20%
C502	a3304	CT4D-2F4-63V-0.1uF-S
C503	a3540	CD110-6.3V-100uF±20%
C504	a3304	CT4D-2F4-63V-0.1uF-S
	F	RESISTOR
R501	G0735	RT13-0.167W-10K±5%
R502	G0735	RT13-0.167W-10K±5%
R503	G0735	RT13-0.167W-10K±5%
R504	G0784	RT13-0.167W-56K±5%
R505	G0735	RT13-0.167W-10K±5%
R506	G0735	RT13-0.167W-10K±5%
R507	G0735	RT13-0.167W-10K±5%
R508	G0705	RT13-0.167W-10±5%
R509	G0728	RT13-0.167W-4.7K±5%
R510	G0719	RT13-0.167W-1K±5%
R513	G0714	RT13-0.167W-180±5%
		OTHER
LED1	a1500a	RED LED
VD501	a5004	1N4148
VD502	a5004	1N4148
VD503	a5004	1N4148
VD504	a5004	1N4148
B501	a6444	HS0038A2 RECEIVER
D501	P90294	PT6961
V501	a7371	LED-0122M
XP501	P6569	12 PINS SOCKET
D8830M MIC ASS'Y		
	F	RESISTOR
R401	G0738	RT13-0.167W-15K±5%
R402	G0738	RT13-0.167W-15K±5%

REF No.	PART No.	PART NAME
R403	G0719	RT13-0.167W-1K±5%
R404	G0753	RT13-0.167W-100K±5%
R405	G0753	RT13-0.167W-100K±5%
R406	G0719	RT13-0.167W-1K±5%
R407	G0735	RT13-0.167W-10K±5%
R408	G0735	RT13-0.167W-10K±5%
R409	G0754	RT13-0.167W-120K±5%
R410	G0754	RT13-0.167W-120K±5%
R411	G0712	RT13-0.167W-100±5%
R412	G0721	RT13-0.167W-2K±5%
R413	G0721	RT13-0.167W-2K±5%
R414	G0728	RT13-0.167W-4.7K±5%
R415	G0728	RT13-0.167W-4.7K±5%
R416	G0728	RT13-0.167W-4.7K±5%
R417	G0735	RT13-0.167W-10K±5%
R418	G0731	RT13-0.167W-6.8K±5%
R419	G0735	RT13-0.167W-10K±5%
R420	G0738	RT13-0.167W-15K±5%
R421	G0735	RT13-0.167W-10K±5%
R422	G0753	RT13-0.167W-100K±5%
R423	G0735	RT13-0.167W-10K±5%
R424	G0740	RT13-0.167W-20K±5%
R425	G0735	RT13-0.167W-10K±5%
R427	G0728	RT13-0.167W-4.7K±5%
R428	G0735	RT13-0.167W-10K±5%
R429	G0735	RT13-0.167W-10K±5%
R430	G0712	RT13-0.167W-100±5%
R431	G0724	RT13-0.167W-3K±5%
R432	G0724	RT13-0.167W-3K±5%
R433	G0737	RT13-0.167W-12K±5%
R434	G0737	RT13-0.167W-12K±5%
R435	G0753	RT13-0.167W-100K±5%
R436	G0753	RT13-0.167W-100K±5%
R437	G0735	RT13-0.167W-10K±5%
R438	G0712	RT13-0.167W-100±5%
R439	G0721	RT13-0.167W-2K±5%
R440	G0721	RT13-0.167W-2K±5%
R441	G0721	RT13-0.167W-2K±5%
R442	G0721	RT13-0.167W-2K±5%
RHEOSTAT		

REF No.	PART No.	PART NAME
RP401	a0552	WH151-B-22K
RP402	a0638	WH9011-2AC-50K 20/5
RP403	a0638	WH9011-2AC-50K 20/5
	C	APACITOR
C401	a3304	CT4D-2F4-63V-0.1uF-S
C402	a3513	CD110X-100u-16V-M
C403	a3505	CD110-1u-M-16V
C404	a3505	CD110-1u-M-16V
C405	a3512	CD110-47u-M-16V
C406	a2015	CC1-63V-05B-20K-CH
C407	a2015	CC1-63V-05B-20K-CH
C408	a3509	CD110-16V-10u-M
C409	a3509	CD110-16V-10u-M
C410	a3513	CD110X-16V-100u-M
C411	a3304	CT4D-2F4-63V-0.1uF-S
C412	a3508	CD110-16V-4.7uF-M
C413	a3508	CD110-16V-4.7uF-M
C414	a3513	CD110X-16V-100u-M
C415	a3513	CD110X-16V-100u-M
C416	a3304	CT4D-2F4-63V-0.1uF-S
C417	a3512	CD110-16V-47uF-M
C418	a3336	CT4-X7R-0.1uF-63V-S
C419	a3336	CT4-X7R-0.1uF-63V-S
C420	a3044	CL11-100V-5600P-K
C421	a3336	CT4-X7R-0.1uF-63V-S
C422	a3336	CT4-X7R-0.1uF-63V-S
C423	a2038	CC1-63V-10B-511K-SL
C424	a2038	CC1-63V-10B-511K-SL
C425	a3044	CL11-100V-5600P-K
C426	a3041	CL11-100V-3900P-K
C427	a3510	CD110-16V-22uF-M
C428	a3509	CD110-16V-10u-M
C429	a3508	CD110-16V-4.7uF-M
C430	a3509	CD110-16V-10u-M
C431	a3508	CD110-16V-4.7uF-M
C432	a3508	CD110-16V-4.7uF-M
C433	a3512	CD110-16V-47uF-M
C434	a3512	CD110-16V-47uF-M
C435	a2015	CC1-63V-05B-20K-CH
C436	a2015	CC1-63V-05B-20K-CH

C438 a3508 CD1 C439 a3512 CD1	10-16V-4.7uF-M 10-16V-4.7uF-M 10-16V-47uF-M
C439 a3512 CD1	
<u> </u>	10-16V-47uF-M
OTH	IER
VD401 a1118 HZ6	A3(1/2W,5.6V)
V401 a5014 C80	50C
V402 a5009 C90	14C
V403 a5009 C90	14C
N401 a4042b UTC	4558
N402 a4503 PT2	399
N403 a4042b UTC	4558
X401 a6871b CKX	(-6.35-7 JACK
X402 a6871b CKX	(-6.35-7 JACK
XP401 a9154 MIC	WIRE
AD81NAH-L P	OWER ASS'Y
RESIS	STOR
R301 G0744 RT1	3-0.167W-33K±5%
R304 G0731 RT1	3-0.167W-6.8K±5%
R305 G0753 RT1	3-0.167W-100K±5%
R306 G0034 RT1	4-0.25W-390±5%
R307 a0440 RY2	7-2W-10±5%
R308 G0042 RT1	4-0.25W-820±5%
R309 G0721 RT1	3-0.167W-2K±5%
R311 G0728 RT1	3-0.167W-4.7K±5%
R312 G0909 RT1	3-0.167W-3.6K±5%
R313 G0728 RT1	3-0.167W-4.7K±5%
R315 G0714 RT1	3-0.167W-180±5%
R316 a0400 RY2	7-2W-1.3±5%
R317 G0705 RT1	3-0.167W-10±5%
R318 G0735 RT1	3-0.167W-10K±5%
R319 G0032 RT1	4-0.25W-330±5%
R320 G0010 RT1	4-0.25W-22±5%
R321 G0721 RT1	3-0.167W-2K±5%
R322 a0472 RY2	7-2W-47K±5%
R323 a0407 RY2	7-2W-180K±5%
R325 G0036 RT1	4-0.25W-470±5%
CAPAC	CITOR
C301 a2046 CT1	-05B-332M-63V-Y5V
C302 a3006 CL1	1-2200P-100V-J
C303 a2042 CT1	-05B-102M-63V-Y5V

REF No.	PART No.	PART NAME
C304	a2037	CC1-10B-471K-63V-SL
C305	a2081	CT81-18B-2E4-472M-400VAC-YA
C306	a2056	CS1-06B-104Z-63V-Y5V
C307	a3661	CD288-27uF-M-400V
C308	a2077	CT81-14B-2E4-103M-1KV
C309	a3607	CD110X-22uF-M-50V
C313	a2063	CC81-06B-47K-1KV-SL
C315	a3513	CD110X-100uF-M-16V
C317	a3513	CD110X-100uF-M-16V
C318	a3542	CD110X-1000uF-M-6.3V
C319	a3554	CD110-10uF-M-10V
C320	a3447	CIS-0.22uF-280VACX2-K
C321	a3676	CD288-1000uF-M-10V
C324	a2056	CS1-06B-104Z-63V-Y5V
C325	a3554	CD110-10uF-M-10V
C326	a3513	CD110X-100uF-M-16V
C327	a3561	CD110X-470uF-M-10V
C328	a2015	CC1-05B-20K-63V-CH
		DIODE
VD301	a5005a	1N4007-YG
VD302	a5005a	1N4007-YG
VD303	a5005a	1N4007-YG
VD304	a5005a	1N4007-YG
VD305	a1202a	SF16-YG
VD306	a1205	HER108
VD307	a1204	31DQ10
VD308	a1568	31DQ06
VD309	a1225	P6KE200
VD310	a1202a	SF16-YG
VD311	a1202a	SF16-YG
VD312	a1142	HZ4C1
VD313	a1202a	SF16-YG
VD315	a1620	RL205-BL
VD317	a5005a	1N4007-YG
TRIODE.IC		
N301	a4721a	UC3842B
N302	a4571a	MC7805CT
N303	a4031a	MC7812CT
V301	a4557a	UTC431
V302	a5121a	STP4N60FP

REF No.	PART No.	PART NAME	
V304	a5114	PC817	
V305	a5009a	C9014C	
V311	a5104a	C8550D	
	OTHER		
T301	a7003a	BCK-700A-XY TRANSFORMER	
L301	a6686	LV-R1481 FILTER	
L302	a6629	LV-F2030 FILTER	
L303	a6621	COIL-0.02mH	
L304	a7020	ZBF253L-4	
L305	a7020	ZBF253L-4	
L306	a6621	COIL-0.02mH	
F301	a6763	FUSE 61801.6M	
XP302	a6605	2P SOCKET	
XP303	a8917	AD70 DC POWER CORD	
	a6443	FC502H FUSE HOLDER	