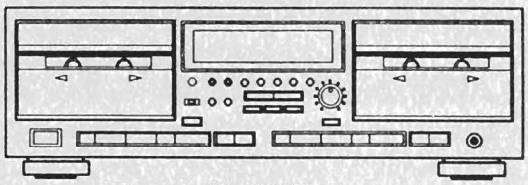
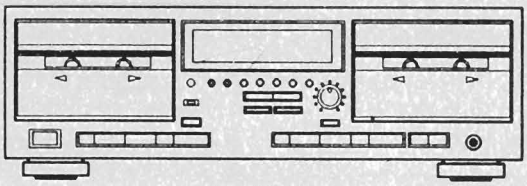
aiwa

AD-WX929
AD-WX828



AD-WX929



AD-WX828

STEREO CASSETTE DECK

SERVICE MANUAL

- BASIC TAPE MECHANISM : α – 14MK II
- TYPE. HE,E,K

SPECIFICATIONS

Type	Stereo cassette tape deck
Track format	4 tracks, 2 channels
Power requirements	AD-WX929HE/AD-WX828HE AC 120/220/240V switchable, 50/60Hz AD-WX929E/AD-WX828E AC 230V, 50Hz AD-WX929K/AD-WX828K AC 240V, 50Hz
Power consumption	23 W
Frequency response	Metal tape: 20 – 18,000Hz $^{0}_{-10}$ dB (–20dB Recording) CrO_2 tape: 20 – 17,000Hz $^{0}_{-10}$ dB (–20dB Recording) Normal tape: 20 – 16,000Hz $^{0}_{-10}$ dB (–20dB Recording)
Signal-to-noise ratio	78 dB (Dolby C NR ON above 5 kHz, metal tape, peak level)
Wow and flutter	AD-WX929:0.060 % (WRMS) AD-WX828:0.065 % (WRMS)
Recording system	AC bias
Erasure system	AC erase
Motor	DC motor × 2
Playback/recording head	Permalloy head
Erasure head	Double gap Ferrite head
Input	REC/LINE IN: 50mV (input impedance 47 kΩ, 0 VU)*
Output	PLAY/LINE OUT: 350 mV (0 VU)* Optimum load impedance 47 kΩ or more PHONES: 0.8 mW (load impedance 32 Ω, 0 VU)*
Outer dimensions	(W × H × D) AD-WX929: 430 × 140 × 317.5 mm AD-WX828: 430 × 140 × 317.5 mm
Weight	AD-WX929: 5.7 kg AD-WX828: 5.4 kg

- Design and specifications are subject to change without notice.
- Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.
- "DOLBY", the double-D symbol □□ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

S/M Code No. 0184 DATE OF ISSUE 2/1993 – I

CAUTION WHEN SERVICING

If the tape transport mechanisms are in the following state, an abnormal sound may be heard when the power switch is turned on and the mechanisms may not operate. In this case, turn the power switch off and then on again. The mechanisms will operate normally.(The microprocessor will be reset.)

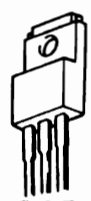
Case :The PLAY solenoids in both decks 1 and decks 2 have drifted down from the normal positions and also the FR solenoid in one deck has drifted down from the normal position.

Case :The FR solenoids in both decks 1 and decks 2 have drifted down from the normal positions and also the PLAY solenoid in one deck has drifted down from the normal position.

TRANSISTOR ILLUSTRATION

2SK373

DTA143
DTC114
DTC144



2SB1330
2SB1370

2SA933
2SA952
2SA1296
2SC945
2SC1740
2SC1815
2SC2001
2SC2240
2SD655

■ ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q,TY
	1	★82-DW1-904-019	IB,EK (S)	※	1
	2	★82-DW1-030-019	RC－W101 (AD－WX929)	※	1
	3	★87-034-786-019	CORD PIN 189－0760		1
	4	★87-042-062-019	PLUG ADPTR S－I6115		1

ELECTRICAL MAIN PARTS LIST – 1 (AD – WX929)

REF. NO.	PART NO.	DESCRIPTION
=== IC ===		
	87-001-441-019	IC, BA10358N
	87-002-282-019	IC, BU4066B
	87-002-444-019	IC, BU4094B
	87-002-669-010	IC, GP1U571X(REMOTE SENSOR)
	87-002-932-010	IC, HA12155NT-01
	87-001-334-019	IC, LB9051A
	82-DW1-630-010	IC, LC866016A-5300
	87-002-328-010	IC, M5218AL
	87-020-758-019	IC, NJM2068SD
	87-027-565-019	IC, TC4081BP
=== TRANSISTOR ===		
	89-503-735-089	TR, FET 2SK373-GR (TPE2)
	87-026-463-089	TR, 2SA933S (RS)
	89-109-521-089	TR, 2SA952K
	89-112-965-089	TR, 2SA1296GR
	89-213-302-089	TR, 2SB1330Q
	89-213-702-019	TR, 2SB1370E
	89-309-456-089	TR, 2SC945L P
	87-026-462-089	TR, 2SC1740S (RS)
	89-318-155-089	TR, 2SC1815GR
	89-320-011-089	TR, 2SC2001K
	89-322-406-089	TR, 2SC2240BL
	89-406-555-089	TR, 2SD655E
	87-026-288-089	TR, DTA143XS
	87-026-464-089	TR, DTC114TS
	87-026-215-089	TR, DTC114YS
	87-026-218-089	TR, DTC144ES
=== DIODE ===		
	87-001-783-089	DIODE, 1N4002-T
	87-001-559-089	DIODE, 1SS131 (T-72)
	87-020-465-089	DIODE, 1SS133 T-72
	87-020-123-089	DIODE, DS446-AT (TA)
	87-017-183-089	ZENER, HZS12A3L
	87-017-143-089	ZENER, HZS22-2
	87-001-636-089	ZENER, HZS3C1
	87-017-101-089	ZENER, HZS6C2
	87-001-936-089	ZENER, HZS7A3L
	87-001-911-089	ZENER, UTZJ4.7A (TAPG)
=== MAIN CIRCUIT BOARD SECTION ===		
C101	★87-018-121-089	CAP, TC-U 150P-50 B
C102	★87-018-121-089	CAP, TC-U 150P-50 B
C103	★87-018-123-089	CAP, TC-U 220P-50 B
C104	★87-018-123-089	CAP, TC-U 220P-50 B
C109	★87-010-405-089	CAP, E 10-50 SME
C110	★87-010-405-089	CAP, E 10-50 SME
C111	★87-010-405-089	CAP, E 10-50 SME
C112	★87-010-405-089	CAP, E 10-50 SME
C113	★87-018-203-089	CAP, TC-U 8200P-16 Y
C114	★87-018-133-089	CAP, TC-U 4700P-16 X
C115	★87-018-133-089	CAP, TC-U 4700P-16 X
C116	★87-018-203-089	CAP, TC-U 8200P-16 Y
C121	★87-010-384-089	CAP, E 100-25 SME
C122	★87-018-134-089	CAP, TC-U 0.01-16 Y
C124	★87-018-134-089	CAP, TC-U 0.01-16 Y
C125	★87-018-126-089	CAP, TC-U 390P-50 B
C126	★87-018-126-089	CAP, TC-U 390P-50 B
C201	★87-018-121-089	CAP, TC-U 150P-50 B
C202	★87-018-121-089	CAP, TC-U 150P-50 B
C203	★87-018-124-089	CAP, TC-U 270P-50 B
C204	★87-018-124-089	CAP, TC-U 270P-50 B
C209	★87-018-133-089	CAP, TC-U 4700P-16 X
C210	★87-018-133-089	CAP, TC-U 4700P-16 X
C211	★87-018-203-089	CAP, TC-U 8200P-16 Y
C212	★87-018-203-089	CAP, TC-U 8200P-16 Y
C213	★87-010-405-089	CAP, E 10-50 SME
C214	★87-010-405-089	CAP, E 10-50 SME
C215	★87-010-405-089	CAP, E 10-50 SME
C216	★87-010-405-089	CAP, E 10-50 SME
C217	★87-010-384-089	CAP, E 100-25 SME
C218	★87-018-134-089	CAP, TC-U 0.01-16 Y
C220	★87-018-134-089	CAP, TC-U 0.01-16 Y
C221	★87-018-126-089	CAP, TC-U 390P-50 B
C222	★87-018-126-089	CAP, TC-U 390P-50 B
C301	★87-018-123-089	CAP, TC-U 220P-50 B
C302	★87-018-123-089	CAP, TC-U 220P-50 B
C303	★87-018-131-089	CAP, TC-U 1000P-50 B
C304	★87-018-131-089	CAP, TC-U 1000P-50 B
C309	★87-018-126-089	CAP, TC-U 390P-50 B
C310	★87-018-126-089	CAP, TC-U 390P-50 B
C313	★87-018-131-089	CAP, TC-U 1000P-50 B
C314	★87-018-131-089	CAP, TC-U 1000P-50 B
C317	★87-010-263-089	CAP, E 100-10
C318	★87-010-260-089	CAP, E 47-25 SME
C319	★87-018-131-089	CAP, TC-U 1000P-50 B
C320	★87-014-081-089	PPCAP 0.01J
C323	★87-018-201-089	CAP, TC-U 5600P-16 X
C325	★87-010-248-089	CAP, E 220-10 SME
C326	★87-010-401-089	CAP, E 1-50 SME
C327	★87-010-401-089	CAP, E 1-50 SME
C329	★87-010-405-089	CAP, E 10-50 SME
C401	★87-018-123-089	CAP, TC-U 220P-50 B
C402	★87-018-123-089	CAP, TC-U 220P-50 B
C403	★87-018-131-089	CAP, TC-U 1000P-50 B
C404	★87-018-131-089	CAP, TC-U 1000P-50 B
C409	★87-018-126-089	CAP, TC-U 390P-50 B
C410	★87-018-126-089	CAP, TC-U 390P-50 B
C413	★87-018-131-089	CAP, TC-U 1000P-50 B
C414	★87-018-131-089	CAP, TC-U 1000P-50 B
C417	★87-018-131-089	CAP, TC-U 1000P-50 B
C418	★87-014-081-089	PPCAP 0.01J
C421	★87-018-201-089	CAP, TC-U 5600P-16 X
C423	★87-010-248-089	CAP, E 220-10 SME
C424	★87-010-401-089	CAP, E 1-50 SME
C425	★87-010-401-089	CAP, E 1-50 SME
C427	★87-010-405-089	CAP, E 10-50 SME
C501	★87-010-404-089	CAP, E 4.7-50 SME
C502	★87-010-404-089	CAP, E 4.7-50 SME
C503	★87-018-121-089	CAP, TC-U 150P-50 B
C504	★87-018-121-089	CAP, TC-U 150P-50 B
C505	★87-018-132-089	CAP, TC-U 2200P-16 X
C506	★87-018-132-089	CAP, TC-U 2200P-16 X
C521	★87-018-131-089	CAP, TC-U 1000P-50 B
C522	★87-018-131-089	CAP, TC-U 1000P-50 B
C524	★87-010-405-089	CAP, E 10-50 SME
C601	★87-018-121-089	CAP, TC-U 150P-50 B
C602	★87-018-121-089	CAP, TC-U 150P-50 B
C603	★87-010-404-089	CAP, E 4.7-50 SME
C604	★87-010-404-089	CAP, E 4.7-50 SME
C605	★87-010-546-089	CAP, E 0.33-50 SME
C606	★87-010-546-089	CAP, E 0.33-50 SME
C607	★87-010-402-089	CAP, E 2.2-50 SME
C608	★87-010-402-089	CAP, E 2.2-50 SME
C609	★87-010-401-089	CAP, E 1-50 SME
C610	★87-010-401-089	CAP, E 1-50 SME
C611	★87-018-132-089	CAP, TC-U 2200P-16 X
C612	★87-018-132-089	CAP, TC-U 2200P-16 X
C613	★87-018-121-089	CAP, TC-U 150P-50 B
C614	★87-018-121-089	CAP, TC-U 150P-50 B
C615	★87-010-404-089	CAP, E 4.7-50 SME
C616	★87-010-404-089	CAP, E 4.7-50 SME
C627	★87-010-404-089	CAP, E 4.7-50 SME
C628	★87-010-404-089	CAP, E 4.7-50 SME
C629	★87-010-404-089	CAP, E 4.7-50 SME
C630	★87-010-404-089	CAP, E 4.7-50 SME
C631	★87-010-401-089	CAP, E 1-50 SME
C632	★87-010-401-089	CAP, E 1-50 SME
C633	★87-010-405-089	CAP, E 10-50 SME
C634	★87-010-401-089	CAP, E 1-50 SME
C636	★87-018-119-089	CAP, TC-U 100P-50 B
C638	★87-018-195-089	CAP, TC-U 1200P-16 X
C643	★87-010-405-089	CAP, E 10-50 SME
C644	★87-010-221-089	CAP, E 470-10 SME
C645	★87-010-401-089	CAP, E 1-50 SME
C646	★87-010-263-089	CAP, E 100-10
C647	★87-010-401-089	CAP, E 1-50 SME
C648	★87-018-121-089	CAP, TC-U 150P-50 B
C649	★87-018-121-089	CAP, TC-U 150P-50 B
C650	★87-018-121-089	CAP, TC-U 150P-50 B
C651	★87-010-401-089	CAP, E 1-50 SME
C652	★87-010-405-089	CAP, E 10-50 SME
C654	★87-018-134-089	CAP, TC-U 0.01-16 Y
C667	★87-018-206-089	CAP, TC-U 8200P-16 Y
C668	★87-018-206-089	CAP, TC-U 8200P-16 Y
C771	★87-010-401-089	CAP, E 1-50 SME
C772	★87-010-401-089	CAP, E 1-50 SME
C773	★87-010-263-089	CAP, E 100-10
C774	★87-010-263-089	CAP, E 100-10
C775	★87-010-401-089	CAP, E 1-50 SME
C776	★87-010-401-089	CAP, E 1-50 SME
C778	★87-018-134-089	CAP, TC-U 0.01-16 Y
C779	★87-010-401-089	CAP, E 1-50 SME
C780	★87-010-401-089	CAP, E 1-50 SME
△C801	★87-010-453-099	CAP ELECT 4700-25V SME
△C802	★87-010-389-099	CAP ELECT 2200-25V SME
C803	★87-010-247-089	CAP, E 100-50 SME
C804	★87-010-405-089	CAP, E 10-50 SME
C805	★87-010-382-089	CAP, E 220-25 SME
C806	★87-010-235-089	CAP, ELECT 470-16V
C807	★87-010-401-089	CAP, E 1-50 SME
C808	★87-010-387-089	CAP, ELECT 470-25V
C809	★87-010-221-089	CAP, E 470-10 SME
△C810	★87-019-112-019	CAP, SG 0.01 E
C851	★87-010-405-089	CAP, E 10-50 SME
C852	★87-010-221-089	CAP, E 470-10 SME
C853	★87-010-406-089	CAP, E 22-50 SME
C854	★87-010-406-089	CAP, E 22-50 SME
C855	★87-018-134-089	CAP, TC-U 0.01-16 Y
△F801	87-035-367-019	FUSE, 3.15A 250V TE(E, K)
△F801	87-035-191-019	FUSE, 3315AT(HE)
J772	★87-009-394-019	JACK PIN 4P EARTH(LINE IN/OUT)
L301	★80-DS4-618-010	COIL HX85K-4
L302	★80-DS4-618-010	COIL HX85K-4
L303	★80-DS4-617-010	COIL OSC 85K-4
L401	★80-DS4-618-010	COIL HX85K-4
L402	★80-DS4-618-010	COIL HX85K-4
L403	★80-DS4-617-010	COIL OSC 85K-4
L501	★82-231-622-080	COIL, 22MH-J
L502	★82-231-622-080	COIL, 22MH-J
L503	★87-003-131-089	COIL, 10MH J
L504	★87-003-131-089	COIL, 10MH J
L601	★80-DS2-611-019	FLTR, MPX 85K-CAN
L602	★80-DS2-611-019	FLTR, MPX 85K-CAN
L603	★82-231-622-080	COIL, 22MH-J
L604	★82-231-622-080	COIL, 22MH-J
△S801	★87-036-015-019	AC SW SDDLDI(POWER)
△S802	87-036-136-019	SW ROTARY 1-1-3 H BI(AC VOLTAGE)
SFR101	★87-024-168-089	SFR, 1K DIA6 V
SFR102	★87-024-168-089	SFR, 1K DIA6 V
SFR201	★87-024-168-089	SFR, 1K DIA6 V
SFR202	★87-024-168-089	SFR, 1K DIA6 V
SFR301	★87-024-176-089	SFR, 100K DIA6 V
SFR302	★87-024-176-089	SFR, 100K DIA6 V
SFR401	★87-024-176-089	SFR, 100K DIA6 V
SFR402	★87-024-176-089	SFR, 100K DIA6 V
SFR501	★87-024-172-089	SFR, 10K DIA6 V
SFR502	★87-024-172-089	SFR, 10K DIA6 V
SFR601	★87-024-175-089	SFR, 47K DIA6 V
SFR602	★87-024-175-089	SFR, 47K DIA6 V
=== FRONT CIRCUIT BOARD SECTION ===		
S902	87-036-170-089	SW, TACT(STOP)(D1)
S903	87-036-170-089	SW, TACT(STOP)(D2)
S904	87-036-170-089	SW, TACT(SYNC DUBB HIGH)
S905	87-036-170-089	SW, TACT(DATA SYSTEM)(D1)
S906	87-036-170-089	SW, TACT(PLAY◀)(D1)
S907	87-036-170-089	SW, TACT(PLAY◀)(D2)
S908	87-036-170-089	SW, TACT(SYNC DUBB NORMAL)
S909	87-036-170-089	SW, TACT(DUAL REC)
S910	87-036-170-089	SW, TACT(PLAY▶)(D1)
S911	87-036-170-089	SW, TACT(PLAY▶)(D2)
S912	87-036-170-089	SW, TACT(DATA SYSTEM)(D2)
S913	87-036-170-089	SW, TACT(REC FADER)
S914	87-036-170-089	SW, TACT(◀◀MS)(D1)
S915	87-036-170-089	SW, TACT(◀◀MS)(D2)
S916	87-036-170-089	SW, TACT(LAP TIME)
S917	87-036-170-089	SW, TACT(REPEAT/BLANK SKIP)
S918	87-036-170-089	SW, TACT(MS▶▶)(D1)
S919	87-036-170-089	SW, TACT(MS▶▶)(D2)
S920	87-036-170-089	SW, TACT(DOLBY NR)
S921	87-036-170-089	SW, TACT(REV. MODE)
S922	87-036-170-089	SW, TACT(REC/REC MUTE)(D2)
S923	87-036-170-089	SW, TACT(PAUSE)(D2)
S924	87-036-170-089	SW, TACT(COUNTER RESET)(D1)
S925	87-036-170-089	SW, TACT(COUNTER RESET)(D2)
S926	87-036-170-089	SW, TACT(PAUSE)(D1)
S927	87-036-170-089	SW, TACT(REC/REC MUTE)(D1)
S928	87-036-170-089	SW, TACT(DISPLAY MODE)
S929	87-036-170-089	SW, TACT(PLAY TRIM)
=== JACK CIRCUIT BOARD SECTION ===		
C777	★87-018-134-089	CAP, TC-U 0.01-16 Y
J771	★87-009-355-019	JACK, 6.3 GLD HLJ1520(PHONES)
=== DECK-1 CIRCUIT BOARD SECTION ===		
S1	87-036-110-019	SW, PUSH(PLAY)
S2	86-575-632-210	SW, FR(FR)
S3	87-036-110-019	SW, PUSH(ST)
S4	87-036-109-019	SW, PUSH(CRO2)
S5	87-036-109-019	SW, PUSH(REA)
S6	87-036-109-019	SW, PUSH(REB)
S7	87-036-110-019	SW, PUSH(MT)

REF. NO.	PART NO.	DESCRIPTION
SFR1	★87-024-331-019	SFR, 5K
SFR2	★87-024-331-019	SFR, 5K
SOL1	★86-575-622-019	SOL ASSY(PLAY)
SOL2	★86-575-622-019	SOL ASSY(FR)
=== DECK-2 CIRCUIT BOARD SECTION ===		
S11	87-036-110-019	SW, PUSH(PLAY)
S12	86-575-632-210	SW, FR(FR)
S13	87-036-110-019	SW, PUSH(CST)
S14	87-036-109-019	SW, PUSH(CR02)
S15	87-036-109-019	SW, PUSH(REA)
S16	87-036-109-019	SW, PUSH(REB)
S17	87-036-110-019	SW, PUSH(MT)
SFR11	★87-024-331-019	SFR, 5K
SFR12	★87-024-331-019	SFR, 5K
SOL11	★86-575-622-019	SOL ASSY(PLAY)
SOL12	★86-575-622-019	SOL ASSY(FR)
=== FL CIRCUIT BOARD SECTION ===		
C901	★87-010-408-089	CAP, E 47-50 SME
C902	★87-010-405-089	CAP, E 10-50 SME
C903	★87-010-402-089	CAP, E 2.2-50 SME
C904	★87-010-405-089	CAP, E 10-50 SME
C905	★87-010-405-089	CAP, E 10-50 SME
C908	★87-018-109-089	CAP, TC-U 22P-50 SL
C909	★87-018-109-089	CAP, TC-U 22P-50 SL
C910	★87-018-214-089	CAP, TC-U 0.1-50 F
C911	★87-010-405-089	CAP, E 10-50 SME
C912	★87-018-127-089	CAP, TC-U 470P-50 B
C913	★87-010-252-089	CAP ELECT (TAPG) 1000-6.3V
C971	★87-010-244-089	CAP, E 22-16 5L
C972	★87-010-417-089	CAP, E 2.2-35 5L
C973	★87-010-244-089	CAP, E 22-16 5L
C974	★87-010-417-089	CAP, E 2.2-35 5L
C975	★87-010-405-089	CAP, E 10-50 SME
C978	★87-018-209-089	CAP, TC-U 0.1-50 F
CF901	★87-030-264-089	CERA LOCK(MU)12.0MHZ
FL901	82-DW1-629-019	FL, 8J 108GK(DISPLAY)
L901	87-003-098-089	COIL, 2.2UH
S901	82-DW1-639-019	SW, SL SSSF013(TIMER)
VR901	★82-DW1-640-019	VR, 10KB RK11K1130(REC LEVEL)
=== RELAY-1 CIRCUIT BOARD SECTION ===		
=== RELAY-2 CIRCUIT BOARD SECTION ===		
=== SENSOR-1 CIRCUIT BOARD SECTION ===		
IC1	87-001-367-019	P-SNSR, SPI-315-05-CD
=== SENSOR-2 CIRCUIT BOARD SECTION ===		
IC11	87-001-367-019	P-SNSR, SPI-315-05-CD
=== POWER-1 CIRCUIT BOARD SECTION ===		
=== POWER-2 CIRCUIT BOARD SECTION ===		
=== MISCELLANEOUS ===		
⚠	★82-187-797-019	AC CORD(E)(HE, E)
⚠	★82-187-796-019	AC CORD(BS)(K)

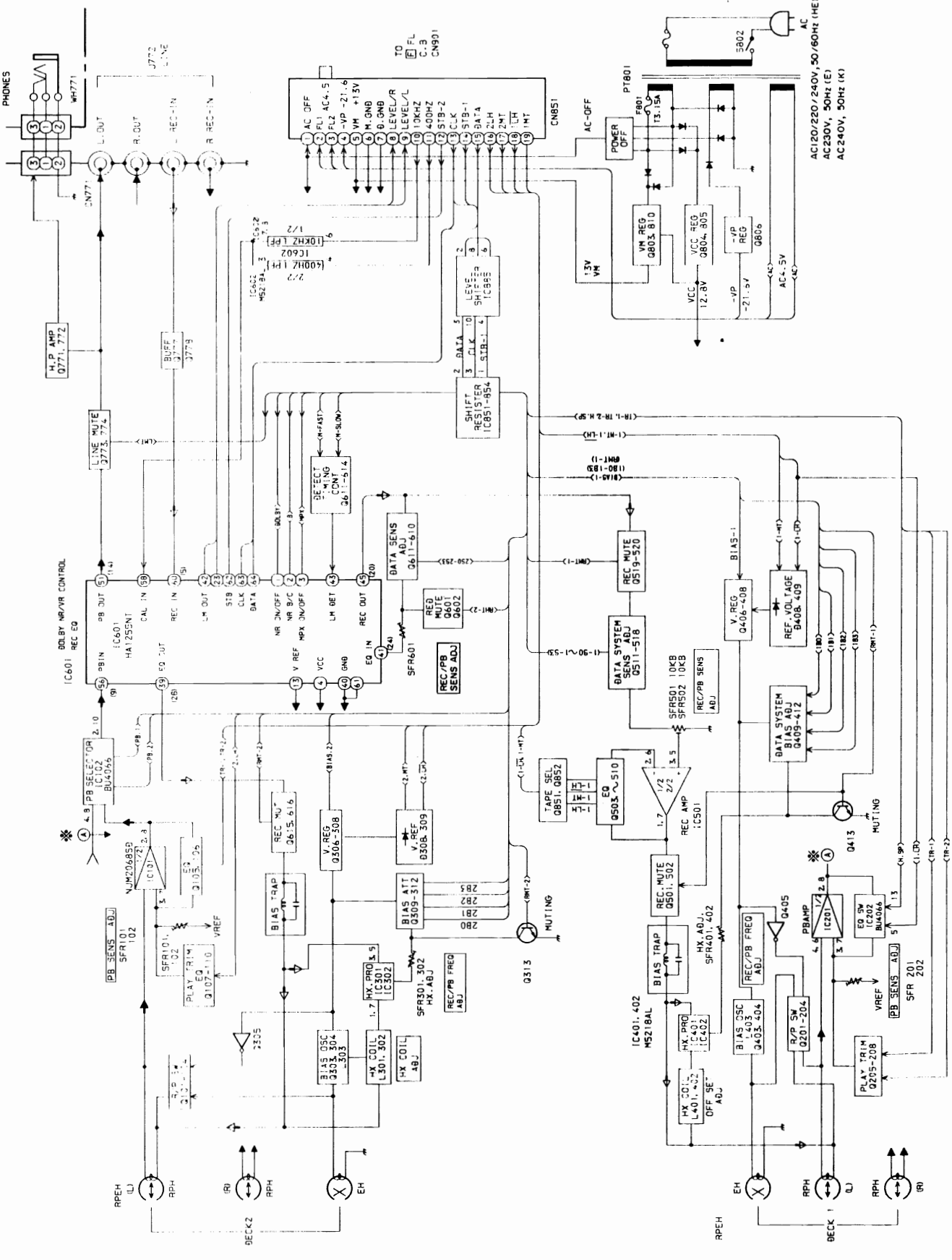
REF. NO.	PART NO.	DESCRIPTION
M1	87-045-348-019	MOT, SHW 2L 70(D1)
M11	87-045-348-019	MOT, SHW 2L 70(D2)
⚠PT801	82-DW1-621-019	PT, HE(HE)
⚠PT801	82-DW1-622-019	PT, E(E)
⚠PT801	82-DW1-623-019	PT, K(K)
RPEH	87-046-392-019	HEAD, RPEH, HADKH5598A(D1)
RPEH	87-046-392-019	HEAD, RPEH, HADKH5598A(D2)

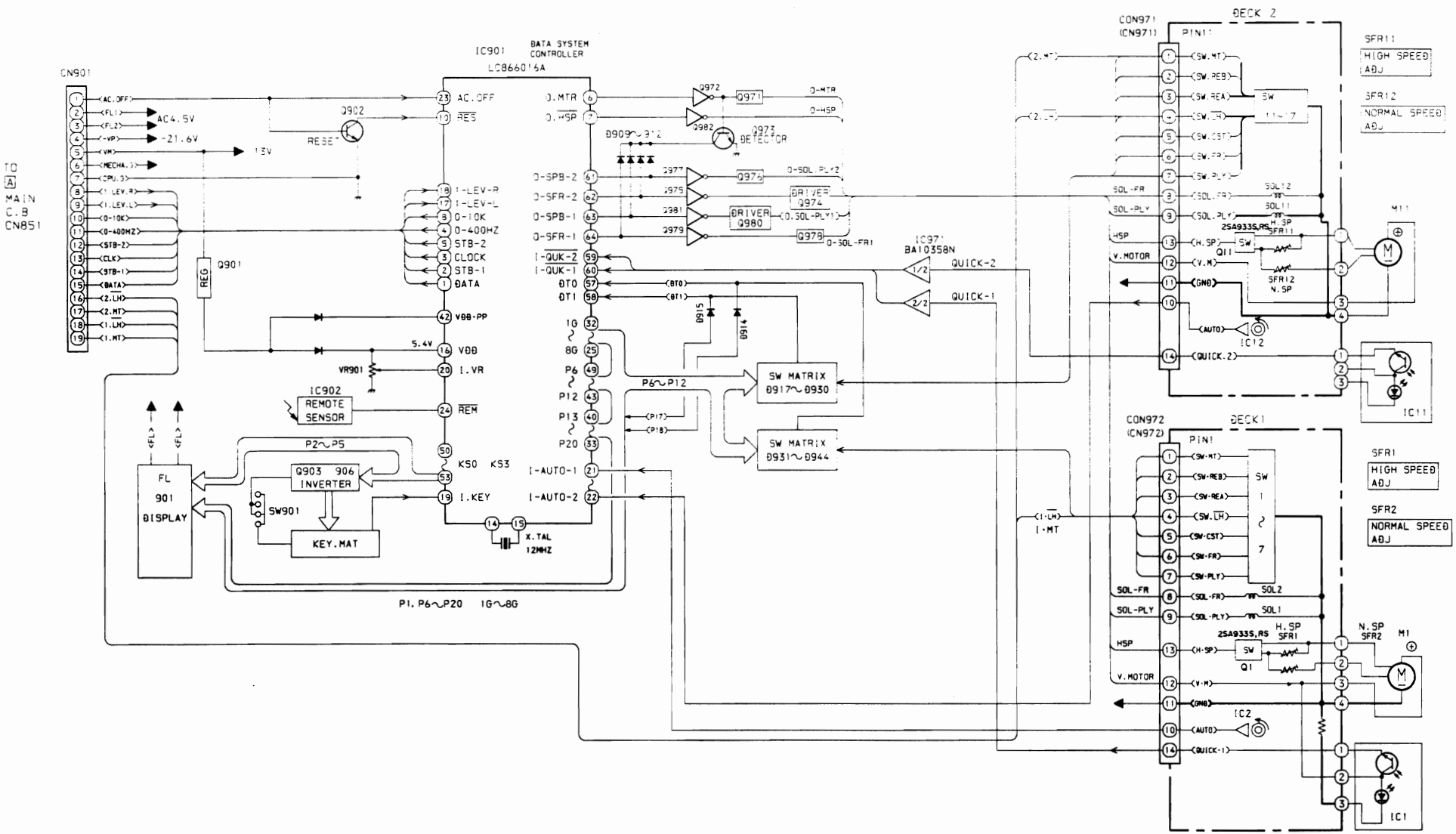
ELECTRICAL MAIN PARTS LIST – 2 (AD – WX828)

REF. NO.	PART NO.	DESCRIPTION
=== IC ===		
	87-002-282-019	IC, BU4066B
	87-002-444-019	IC, BU4094B
	87-002-669-010	IC, GP 1U 571X(REMOTE SENSOR)
	87-002-932-010	IC, HA12155MT-01
	87-001-334-019	IC, LB 9051A
	82-DW1-630-010	IC, LC866016A-5300
	87-002-328-010	IC, M5218AL
	87-020-758-019	IC, NJM 2068 SD
	87-027-565-019	IC, TC4081BP
=== TRANSISTOR ===		
	89-503-735-089	TR, FET 2SK373-GR (TPE2)
	87-026-463-089	TR, 2SA933S (RS)
	89-109-521-089	TR, 2SA952K
	89-112-965-089	TR, 2SA1296GR
	89-213-302-089	TR, 2SB1330Q
	89-213-702-019	TR, 2SB1370E
	87-026-462-089	TR, 2SC1740S (RS)
	89-309-456-089	TR, 2SC945L P
	89-318-155-089	TR, 2SC1815GR
	89-320-011-089	TR, 2SC2001K
	89-322-406-089	TR, 2SC2240BL
	89-406-555-089	TR, 2SD655E
	87-026-288-089	TR, DTA143XS
	87-026-464-089	TR, DTC114TS
	87-026-215-089	TR, DTC114YS
	87-026-218-089	TR, DTC144ES
=== DIODE ===		
	87-001-783-089	DIODE, 1N4002-T
	87-001-559-089	DIODE, 1SS131 (T-72)
	87-020-465-089	DIODE, 1SS133 T-72
	87-020-123-089	DIODE, DS446-AT (TA)
	87-017-183-089	ZENER, HZS12A3L
	87-017-143-089	ZENER, HZS22-2
	87-001-636-089	ZENER, HZS3C1
	87-001-936-089	ZENER, HZS7A3L
	87-001-911-089	ZENER, UTZJ4.7A (TAPG)
=== MAIN CIRCUIT BOARD SECTION ===		
C101	★87-018-121-089	CAP, TC-U 150P-50 B
C102	★87-018-121-089	CAP, TC-U 150P-50 B
C103	★87-018-123-089	CAP, TC-U 220P-50 B
C104	★87-018-123-089	CAP, TC-U 220P-50 B
C109	★87-010-405-089	CAP, E 10-50 SME
C110	★87-010-405-089	CAP, E 10-50 SME
C111	★87-010-405-089	CAP, E 10-50 SME
C112	★87-010-405-089	CAP, E 10-50 SME
C117	★87-018-129-089	CAP, TC-U 680P-50 B
C118	★87-018-129-089	CAP, TC-U 680P-50 B
C119	★87-010-404-089	CAP, E 4.7-50 SME
C120	★87-010-404-089	CAP, E 4.7-50 SME
C121	★87-010-384-089	CAP, E 100-25 SME
C122	★87-018-134-089	CAP, TC-U 0.01-16 Y
C124	★87-018-134-089	CAP, TC-U 0.01-16 Y
C125	★87-018-126-089	CAP, TC-U 390P-50 B
C126	★87-018-123-089	CAP, TC-U 220P-50 B
C203	★87-018-124-089	CAP, TC-U 270P-50 B
C204	★87-018-124-089	CAP, TC-U 270P-50 B
C213	★87-010-405-089	CAP, E 10-50 SME
C214	★87-010-405-089	CAP, E 10-50 SME
C215	★87-010-405-089	CAP, E 10-50 SME

REF. NO.	PART NO.	DESCRIPTION
C216	★87-010-405-089	CAP, E 10-50 SME
C217	★87-010-384-089	CAP, E 100-25 SME
C218	★87-018-134-089	CAP, TC-U 0.01-16 Y
C220	★87-018-134-089	CAP, TC-U 0.01-16 Y
C221	★87-018-126-089	CAP, TC-U 390P-50 B
C222	★87-018-123-089	CAP, TC-U 220P-50 B
C301	★87-018-123-089	CAP, TC-U 220P-50 B
C302	★87-018-123-089	CAP, TC-U 220P-50 B
C303	★87-018-131-089	CAP, TC-U 1000P-50 B
C304	★87-018-131-089	CAP, TC-U 1000P-50 B
C309	★87-018-126-089	CAP, TC-U 390P-50 B
C310	★87-018-126-089	CAP, TC-U 390P-50 B
C313	★87-018-131-089	CAP, TC-U 1000P-50 B
C314	★87-018-131-089	CAP, TC-U 1000P-50 B
C317	★87-010-260-089	CAP, E 47-25 SME
C318	★87-010-260-089	CAP, E 47-25 SME
C319	★87-018-131-089	CAP, TC-U 1000P-50 B
C320	★87-014-081-089	PPCAP 0.01J
C323	★87-018-201-089	CAP, TC-U 5600P-16 X
C325	★87-010-248-089	CAP, E 220-10 SME
C326	★87-010-401-089	CAP, E 1-50 SME
C327	★87-010-401-089	CAP, E 1-50 SME
C329	★87-010-405-089	CAP, E 10-50 SME
C601	★87-018-121-089	CAP, TC-U 150P-50 B
C602	★87-018-121-089	CAP, TC-U 150P-50 B
C603	★87-010-404-089	CAP, E 4.7-50 SME
C604	★87-010-404-089	CAP, E 4.7-50 SME
C605	★87-010-546-089	CAP, E 0.33-50 SME
C606	★87-010-546-089	CAP, E 0.33-50 SME
C607	★87-010-402-089	CAP, E 2.2-50 SME
C608	★87-010-402-089	CAP, E 2.2-50 SME
C609	★87-010-401-089	CAP, E 1-50 SME
C610	★87-010-401-089	CAP, E 1-50 SME
C611	★87-018-132-089	CAP, TC-U 2200P-16 X
C612	★87-018-132-089	CAP, TC-U 2200P-16 X
C613	★87-018-121-089	CAP, TC-U 150P-50 B
C614	★87-018-121-089	CAP, TC-U 150P-50 B
C615	★87-010-404-089	CAP, E 4.7-50 SME
C616	★87-010-404-089	CAP, E 4.7-50 SME
C627	★87-010-404-089	CAP, E 4.7-50 SME
C628	★87-010-404-089	CAP, E 4.7-50 SME
C631	★87-010-401-089	CAP, E 1-50 SME
C632	★87-010-401-089	CAP, E 1-50 SME
C633	★87-010-405-089	CAP, E 10-50 SME
C634	★87-010-401-089	CAP, E 1-50 SME
C636	★87-018-119-089	CAP, TC-U 100P-50 B
C638	★87-018-195-089	CAP, TC-U 1200P-16 X
C643	★87-010-405-089	CAP, E 10-50 SME
C644	★87-010-370-089	CAP, E 330-6.3 SME
C645	★87-010-401-089	CAP, E 1-50 SME
C646	★87-010-401-089	CAP, E 1-50 SME
C647	★87-010-401-089	CAP, E 1-50 SME
C648	★87-018-121-089	CAP, TC-U 150P-50 B
C649	★87-018-121-089	CAP, TC-U 150P-50 B
C650	★87-018-121-089	CAP, TC-U 150P-50 B
C651	★87-010-401-089	CAP, E 1-50 SME
C652	★87-010-405-089	CAP, E 10-50 SME
C653	★87-018-134-089	CAP, TC-U 0.01-16 Y
C654	★87-018-134-089	CAP, TC-U 0.01-16 Y
C671	★87-018-134-089	CAP, TC-U 0.01-16 Y
C672	★87-018-134-089	CAP, TC-U 0.01-16 Y
C771	★87-010-401-089	CAP, E 1-50 SME
C772	★87-010-401-089	CAP, E 1-50 SME
C773	★87-010-263-089	CAP, E 100-10

BLOCK DIAGRAM (AD – WX929)

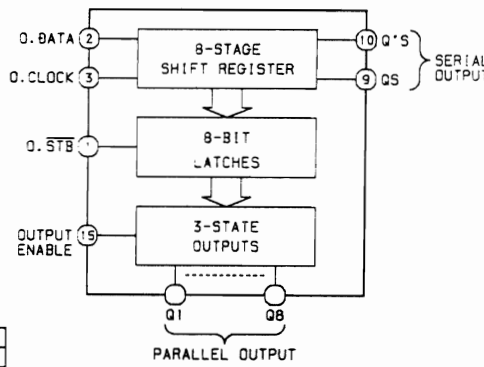



CN901
TO A MAIN C.B CN851
AC4.5V
-21.6V
13V
Q902
RESET
REG
Q901
IC901
DATA SYSTEM CONTROLLER
LC866016A
AC.OFF
RES
I-LEV-R
I-LEV-L
O-10K
O-400HZ
STB-2
CLOCK
STB-1
DATA
VDD-PP
VDD
5.4V
I.VR
VR901
REM
IC902
REMOTE SENSOR
KS0 KS3
I.KEY
SW901
KEY.MAT
FL 901 DISPLAY
Q903 906 INVERTER
X.TAL 12MHZ
O.MTR
O.HSP
Q971
Q972
Q982
Q973 DETECTOR
D909~912
O-SPB-2
O-SFR-2
O-SPB-1
O-SFR-1
Q977
Q975
Q981
Q979
Q974
Q980
DRIVER
Q978
O-SOL.PLY2
O-SOL.FR1
I-QUK-2
I-QUK-1
DT0
DT1
IG
8G
P6
P12
P13
P20
I-AUTO-1
I-AUTO-2
D915
D914
SW MATRIX D917~D930
SW MATRIX D931~D944
P6~P12
P1. P6~P20 IG~8G
IC97
BA10358N
1/2
2/2
QUICK-2
QUICK-1
CON971
(CN971)
PIN11
DECK 2
SW 1~7
SOL-FR
SOL-PLY
H.SP
V.MOTOR
GND
AUTO
QUICK.2
SOL2
SOL1
2SA933S,RS
Q11
SFR11 H.SP
SFR12 N.SP
IC12
IC11
M11
SFR11
HIGH SPEED ADJ
SFR12
NORMAL SPEED ADJ
CON972
(CN972)
PIN1
DECK1
SW 1~7
Q1
IC2
IC1
M1
SFR1
HIGH SPEED ADJ
SFR2
NORMAL SPEED ADJ
N.SP SFR2

REF. NO.	PART NO.	DESCRIPTION
C774	★87-010-263-089	CAP, E 100-10
C775	★87-010-401-089	CAP, E 1-50 SME
C776	★87-010-401-089	CAP, E 1-50 SME
C778	★87-018-134-089	CAP, TC-U 0.01-16 Y
C779	★87-010-401-089	CAP, E 1-50 SME
C780	★87-010-401-089	CAP, E 1-50 SME
⚠C801	★87-010-453-099	CAP ELECT 4700-25V SME
⚠C802	★87-010-389-099	CAP ELECT 2200-25V SME
C803	★87-010-247-089	CAP, E 100-50 SME
C804	★87-010-405-089	CAP, E 10-50 SME
C805	★87-010-382-089	CAP, E 22-25 SME
C806	★87-010-235-089	CAP, E 470-16 SME
C807	★87-010-401-089	CAP, E 1-50 SME
C808	★87-010-235-089	CAP, E 470-16 SME
C809	★87-010-370-089	CAP, E 330-6.3 SME
C810	★87-019-112-019	CAP, SG 0.01 E
C851	★87-010-405-089	CAP, E 10-50 SME
C852	★87-010-248-089	CAP, E 220-10 SME
C857	★87-018-134-089	CAP, TC-U 0.01-16 Y
⚠F801	87-035-366-019	FUSE 2.5A 250V T E/K
J772	★87-009-394-019	JACK PIN 4P EARTH(LINE IN/OUT)
L301	★80-DS4-618-010	COIL HX85K-4
L302	★80-DS4-618-010	COIL HX85K-4
L303	80-DS4-617-010	COIL OSC 85K-4
L601	★80-DS2-611-019	FLTR, MPX 85K-CAN
L602	★80-DS2-611-019	FLTR, MPX 85K-CAN
L603	★82-231-622-080	COIL, 22MH-J
L604	★82-231-622-080	COIL, 22MH-J
⚠S801	★87-036-015-019	AC SW SDDLDI(POWER)
⚠S802	87-036-136-019	SW ROTARY 1-1-3 H BI(AC VOLTAGE)
SFR101	★87-024-168-089	SFR, 1K DIA6 V
SFR102	★87-024-168-089	SFR, 1K DIA6 V
SFR201	★87-024-168-089	SFR, 1K DIA6 V
SFR202	★87-024-168-089	SFR, 1K DIA6 V
SFR301	★87-024-176-089	SFR, 100K DIA6 V
SFR302	★87-024-176-089	SFR, 100K DIA6 V
SFR601	★87-024-175-089	SFR, 47K DIA6 V
SFR602	★87-024-175-089	SFR, 47K DIA6 V
::: FRONT CIRCUIT BOARD SECTION :::		
S902	87-036-170-089	SW, TACT(STOP)(D1)
S903	87-036-170-089	SW, TACT(STOP)(D2)
S904	87-036-170-089	SW, TACT(SYNC DUBB HIGH)
S906	87-036-170-089	SW, TACT(PLAY◀)(D1)
S907	87-036-170-089	SW, TACT(PLAY◀)(D2)
S908	87-036-170-089	SW, TACT(SYNC DUBB NORMAL)
S910	87-036-170-089	SW, TACT(PLAY▶)(D1)
S911	87-036-170-089	SW, TACT(PLAY▶)(D2)
S912	87-036-170-089	SW, TACT(DATA SYSTEM)(D2)
S913	87-036-170-089	SW, TACT(REC FADER)
S914	87-036-170-089	SW, TACT(◀◀ MS)(D1)
S915	87-036-170-089	SW, TACT(◀◀ MS)(D2)
S916	87-036-170-089	SW, TACT(LAP TIME)
S917	87-036-170-089	SW, TACT(REPEAT/BLANK SKIP)
S918	87-036-170-089	SW, TACT(MS ▶▶)(D1)
S919	87-036-170-089	SW, TACT(MS ▶▶)(D2)
S920	87-036-170-089	SW, TACT(DOLBY NR)
S921	87-036-170-089	SW, TACT(REV. MODE)
S922	87-036-170-089	SW, TACT(REC/REC MUTE)(D2)
S923	87-036-170-089	SW, TACT(PAUSE)(D2)
S924	87-036-170-089	SW, TACT(COUNTER RESET)(D1)
S925	87-036-170-089	SW, TACT(COUNTER RESET)(D2)
::: JACK CIRCUIT BOARD SECTION :::		
C777	★87-018-134-089	CAP, TC-U 0.01-16 Y
J771	★87-009-355-019	JACK, 6.3 GLD HLJ1520(PHONES)
::: DECK-1 CIRCUIT BOARD SECTION :::		
S1	87-036-110-019	SW, PUSH(PLAY)
S2	86-575-632-210	SW, FR(FR)
S3	87-036-110-019	SW, PUSH(CST)
S4	87-036-110-019	SW, PUSH(CRO2)
SFR1	★87-024-331-019	SFR, 5K
SFR2	★87-024-331-019	SFR, 5K
SOL1	★86-575-622-019	SOL ASSY(PLAY)
SOL2	★86-575-622-019	SOL ASSY(FR)
::: DECK-2 CIRCUIT BOARD SECTION :::		
S11	87-036-110-019	SW, PUSH(PLAY)
S12	86-575-632-210	SW, FR(FR)
S13	87-036-110-019	SW, PUSH(CST)
S14	87-036-110-019	SW, PUSH(CRO2)
S15	87-036-109-019	SW, PUSH(REA)
S16	87-036-110-019	SW, PUSH(REB)
S17	87-036-110-019	SW, PUSH(MT)
SFR11	★87-024-331-019	SFR, 5K
SFR12	★87-024-331-019	SFR, 5K
SOL11	★86-575-622-019	SOL ASSY(PLAY)
SOL12	★86-575-622-019	SOL ASSY(FR)
::: FL CIRCUIT BOARD SECTION :::		
C901	★87-010-408-089	CAP, E 47-50 SME
C902	★87-010-405-089	CAP, E 10-50 SME
C903	★87-010-402-089	CAP, E 2.2-50 SME
C904	★87-010-405-089	CAP, E 10-50 SME
C905	★87-010-405-089	CAP, E 10-50 SME
C908	★87-018-109-089	CAP, TC-U 22P-50 SL
C909	★87-018-109-089	CAP, TC-U 22P-50 SL
C910	★87-018-209-089	CAP, TC-U 0.1-50 B
C911	★87-010-405-089	CAP, E 10-50 SME
C912	★87-018-127-089	CAP, TC-U 470P-50 B
C913	★87-010-252-089	CAP ELECT (TAPG) 1000-6.3V
C975	★87-010-405-089	CAP, E 10-50 SME
C976	★87-018-209-080	CAP, TC-U 0.1-50F
C977	★87-018-209-08	CAP, TC-U 0.1-50F
C978	★87-018-209-08	CAP, TC-U 0.1-50F
CF901	★87-030-264-089	CERA LOCK(MU)12.0MHZ
FL901	82-DW1-629-019	FL, BJ 108GK(DISPLAY)
L901	87-003-098-089	COIL, 2.2UH
S901	82-DW1-639-019	SW, SL SSSF013(TIMER)
VR901	★82-DW1-640-019	VR, 10KB RK11K1130(REC LEVEL)
::: RELAY-1 CIRCUIT BOARD SECTION :::		
::: RELAY-2 CIRCUIT BOARD SECTION :::		
::: POWER-1 CIRCUIT BOARD SECTION :::		
::: POWER-2 CIRCUIT BOARD SECTION :::		
::: MISCELLANEOUS :::		
⚠	★82-187-797-019	AC CORD(E)(HE, E)
⚠	★82-187-796-019	AC CORD(BS)(K)
M1	87-045-348-019	MOT, SHW 2L 70(D1)
M11	87-045-348-019	MOT, SHW 2L 70(D2)
PH	87-046-391-019	HEAD, PH HADKH2542A(D1)
⚠PT801	82-DW2-621-019	PT, HE(S)(HE)
⚠PT801	82-DW2-618-019	PT, E(S)(E)
⚠PT801	82-DW2-619-010	PT, K(S)(K)
RPEH	87-046-390-019	HEAD, RPEH, HADKH5597A(D2)

IC BLOCK DIAGRAM – 1

IC, BU4094B



IC, BU4094B

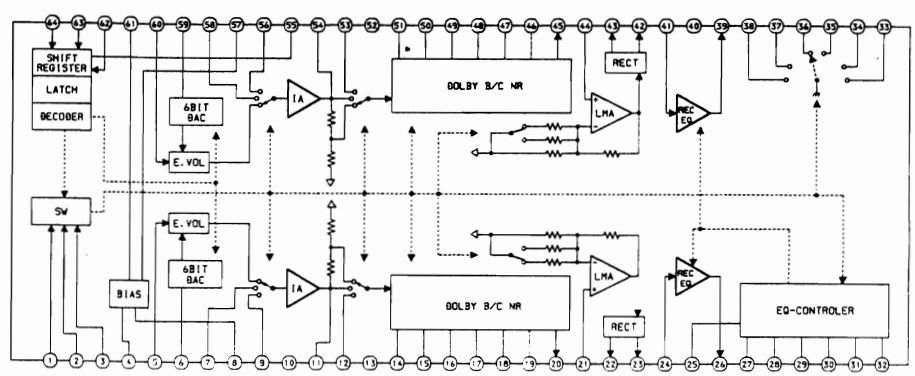
TRUTH TABLE

CLOCK	OUTPUT ENABLE	STROBE	DATA	PARALLEL OUTPUTS		SERIAL OUTPUTS	
				Q1	Qn	QS	Q'S
↑	L	×	×	Z	Z	Q7	NO CHG.
↓	L	×	×	Z	Z	NO CHG.	QS
↑	H	L	×	NO CHG.	NO CHG.	Q7	NO CHG.
↑	H	H	L	L	Qn-1	Q7	NO CHG.
↑	H	H	H	H	Qn-1	Q7	NO CHG.
↓	H	×	×	NO CHG.	NO CHG.	NO CHG.	QS

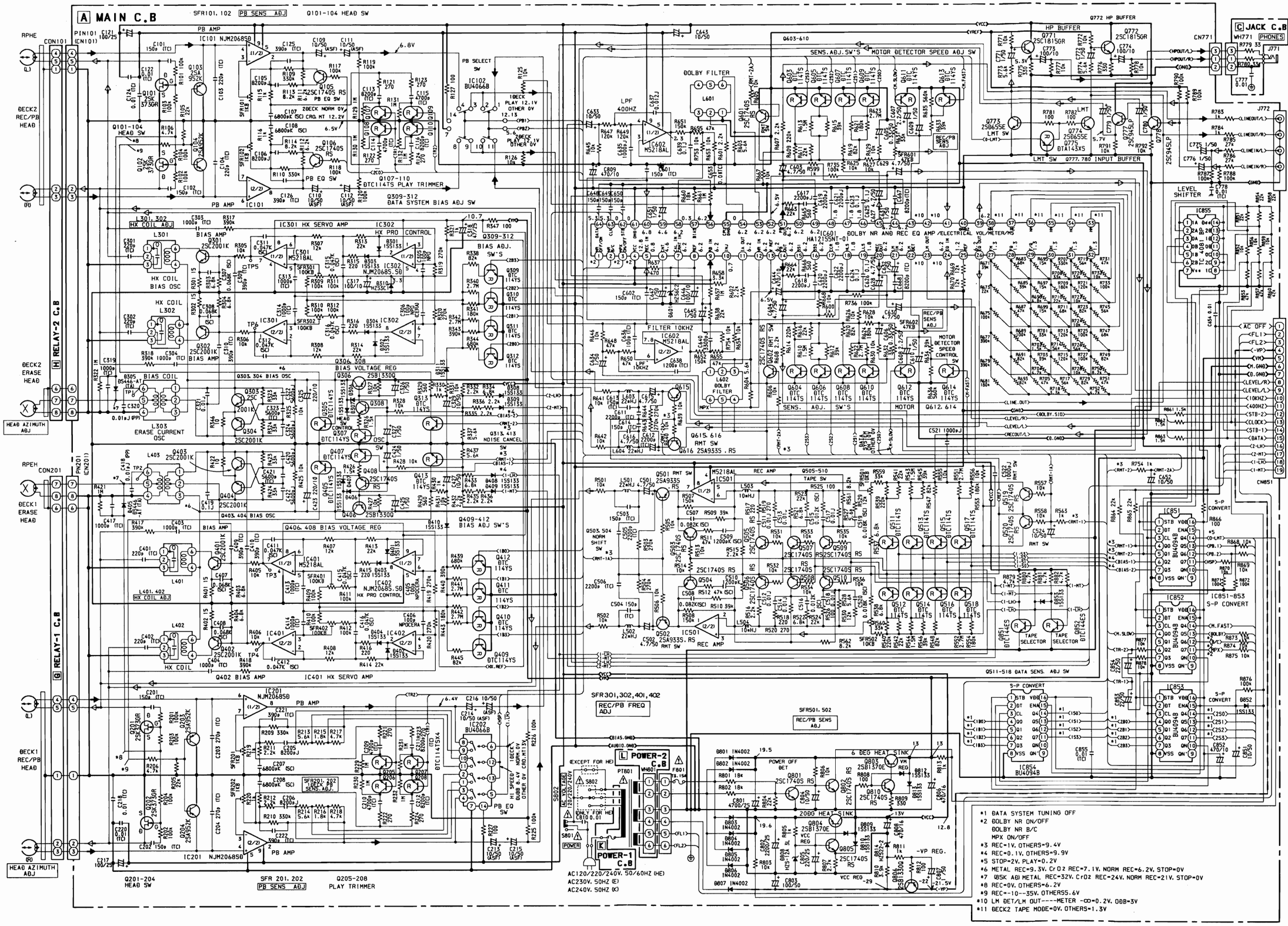
Z = HIGH IMPEDANCE
× = DON'T CARE

Q1:D.DOLBY ON
Q2:D.DOLBY C
Q3:D.EXT.REC
Q4:D.INT.REC
Q5:D.PLAY
Q6:D.PB2
Q7:D.LED
Q8:D. $\overline{RMT}$

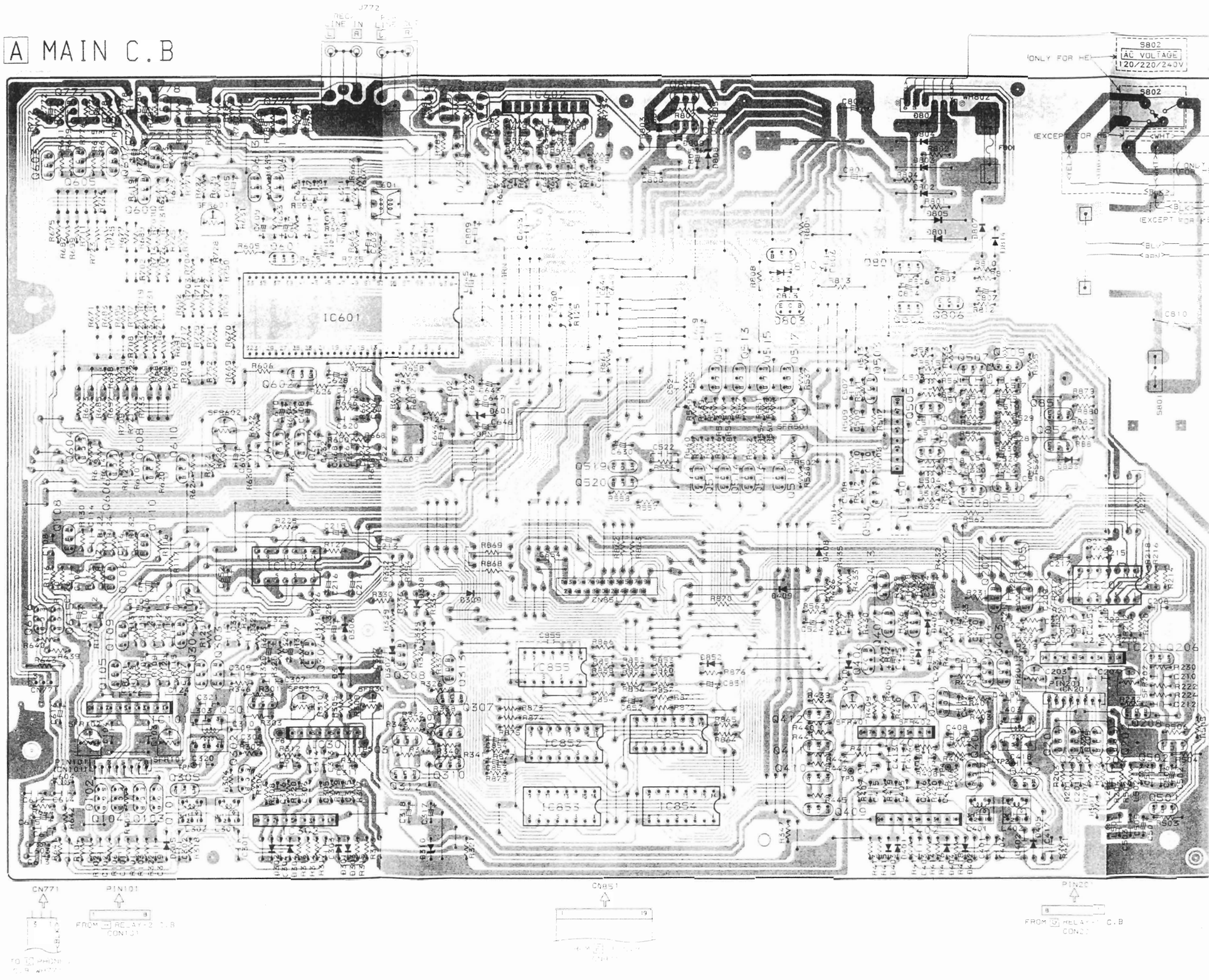
IC, HA12155NT – 01



SCHEMATIC DIAGRAM – 1 (AD – WX929)

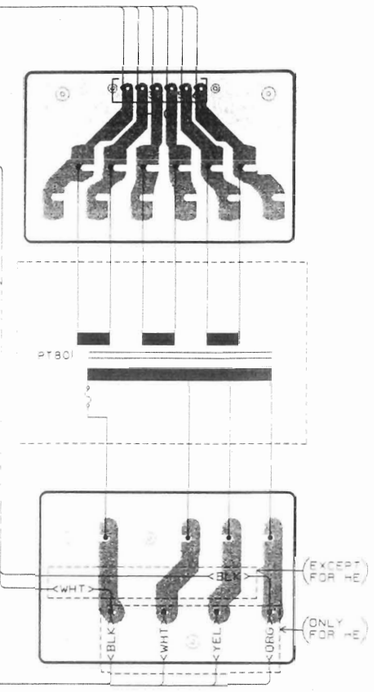


A MAIN C.B

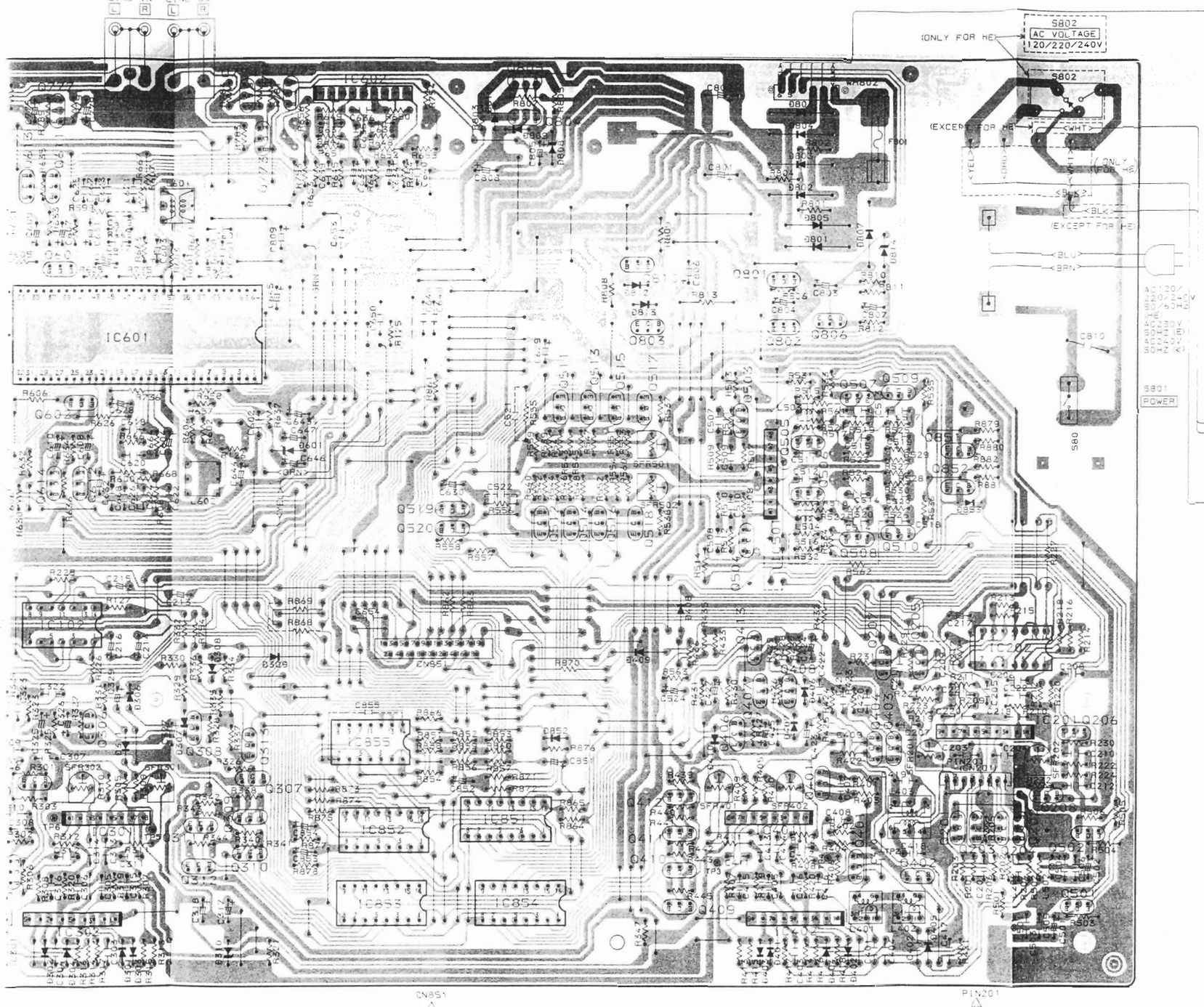

J772
REC LINE IN
PB LINE OUT
S802
AC VOLTAGE
120/220/240V
(ONLY FOR HE)
(EXCEPT FOR HE)
IC601
IC852
IC855
IC853
IC854
CN771
PIN101
FROM RELAY-2 C.B
CON101
TO PHONE
CN851
PIN201
FROM RELAY-1 C.B
CON201

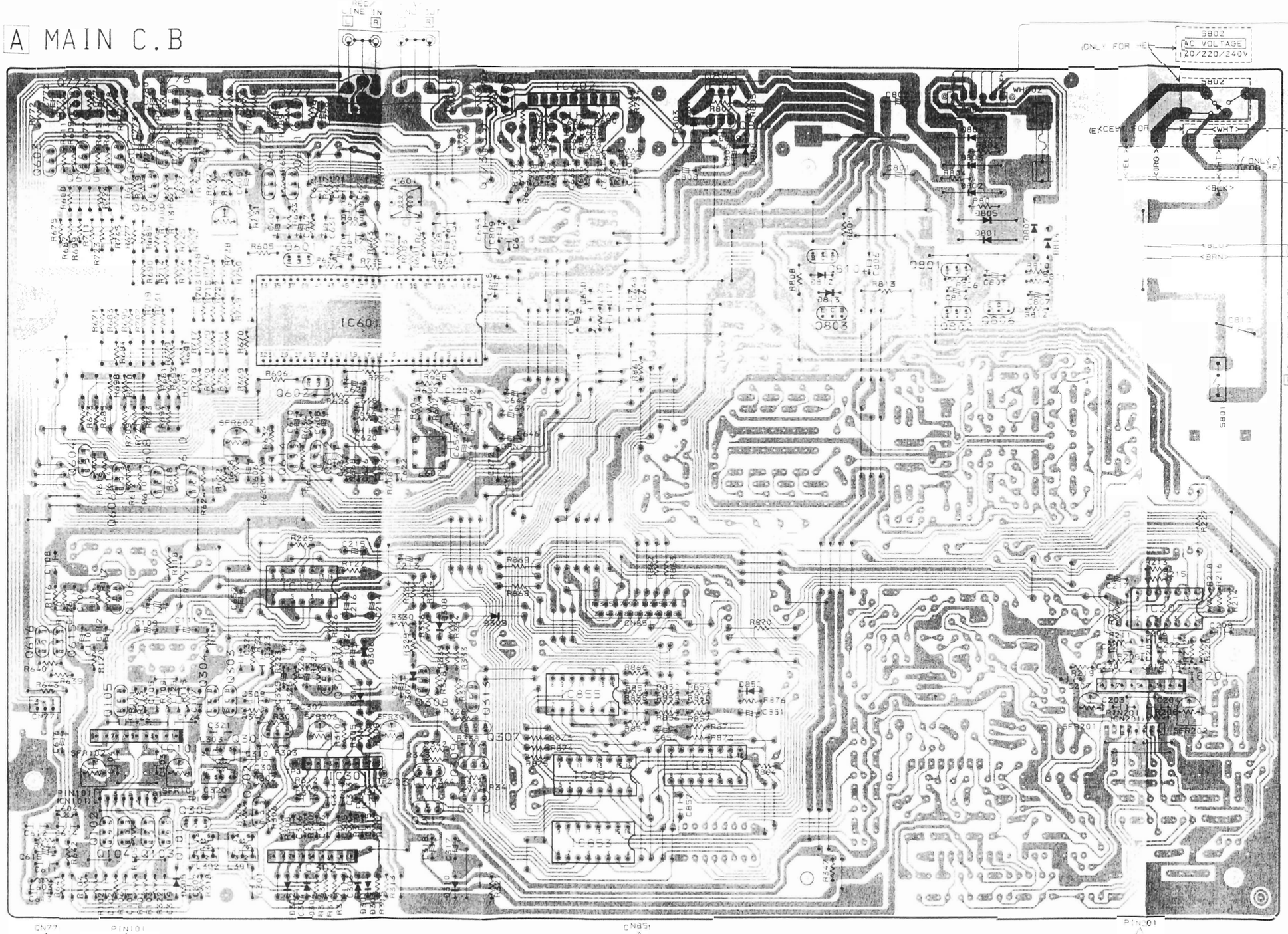
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

L POWER-2 C.B

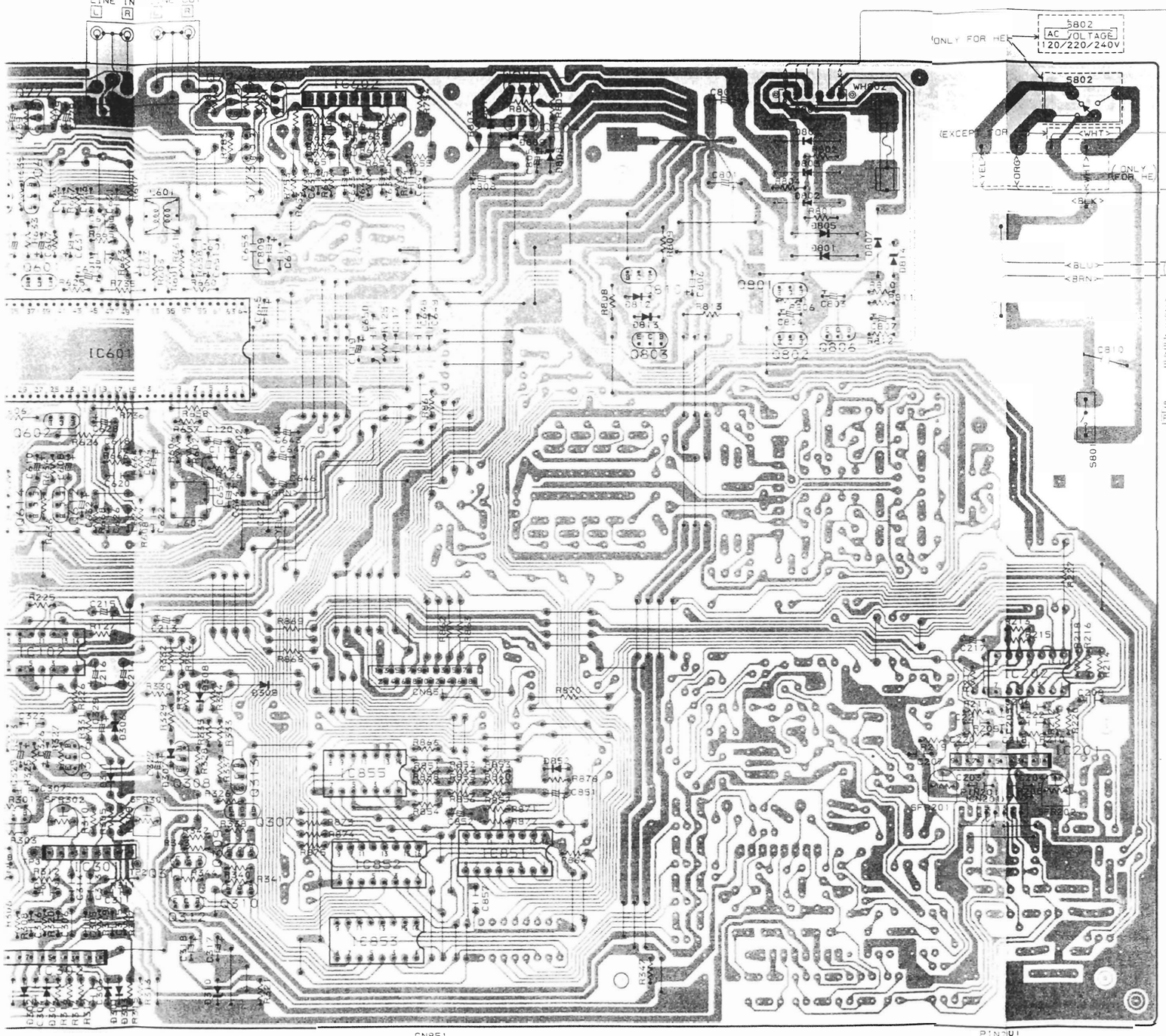


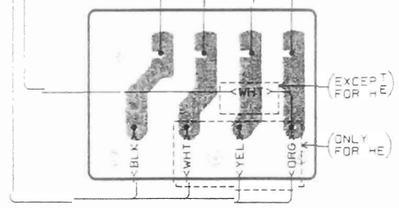
K POWER-1 C.B




1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A MAIN C.B
REC/
LINE IN
L
R
R
IC602
IC601
IC201
IC202
IC101
IC301
IC302
IC851
IC852
IC853
IC855
CN851
Q601
Q602
Q603
Q604
Q605
Q606
Q105
Q106
Q302
Q303
Q304
Q305
Q307
Q308
Q310
Q801
Q802
Q803
Q806
D801
D802
D803
D805
D807
D810
D813
SFR101
SFR201
SFR202
SFR301
SFR302
SFR602
WH802
S802
AC VOLTAGE
120/220/240V
(ONLY FOR HE)
(EXCEPT FOR
<YEL>
<ORG>
<WHT>
<WHT>
(ONLY FOR HE)
<BLK>
<BLU>
<BRN>
S801
POWER
CN771
3
1
<BLK>
TO PHONES C.B WH771
PIN101
1
8
FROM RELAY-2 C.B CON101
CN851
18
FROM F C.B CN301
PIN201
5
1
FROM G RELAY-1 C.B CON201

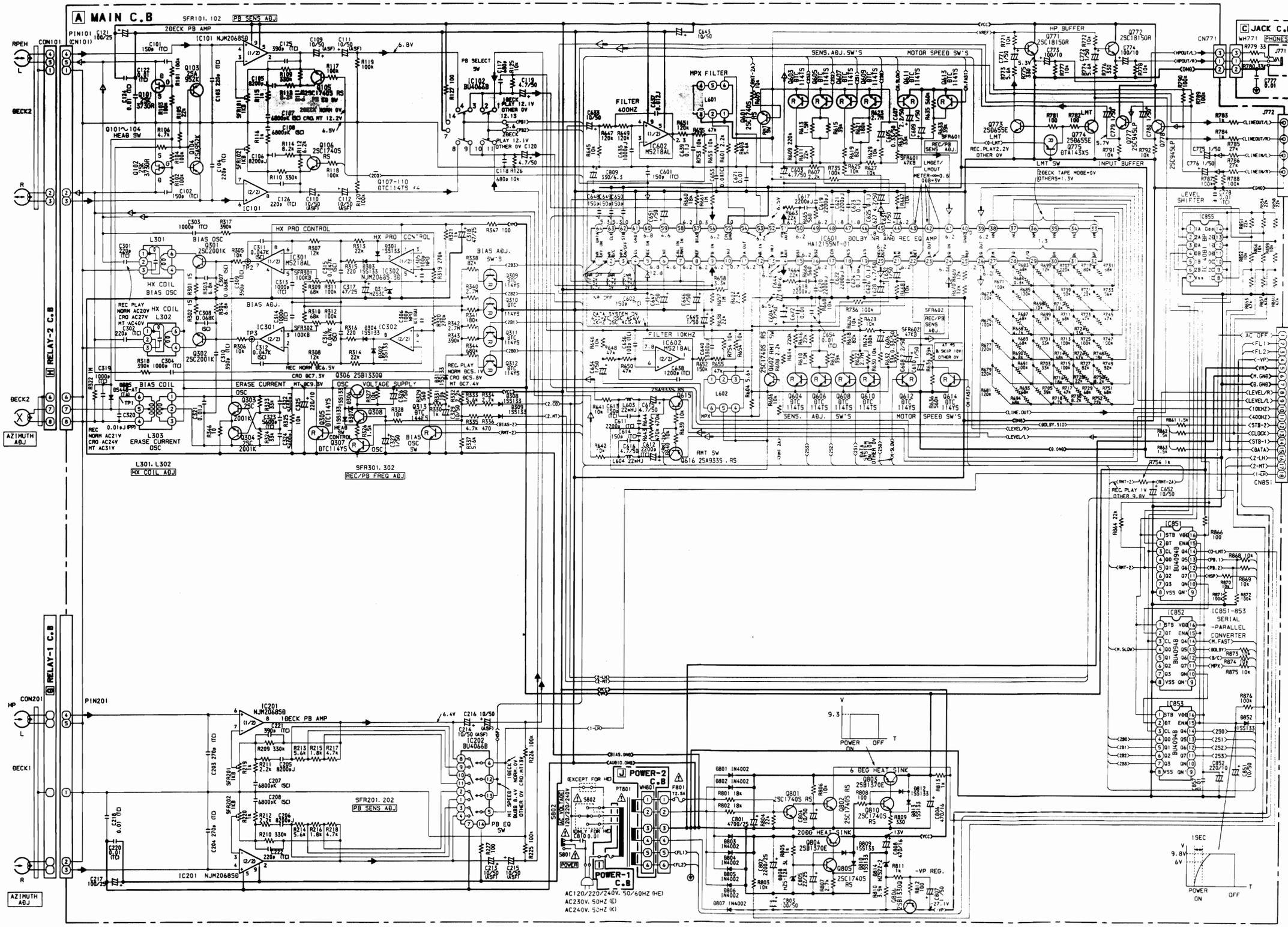
J POWER-2 C.B

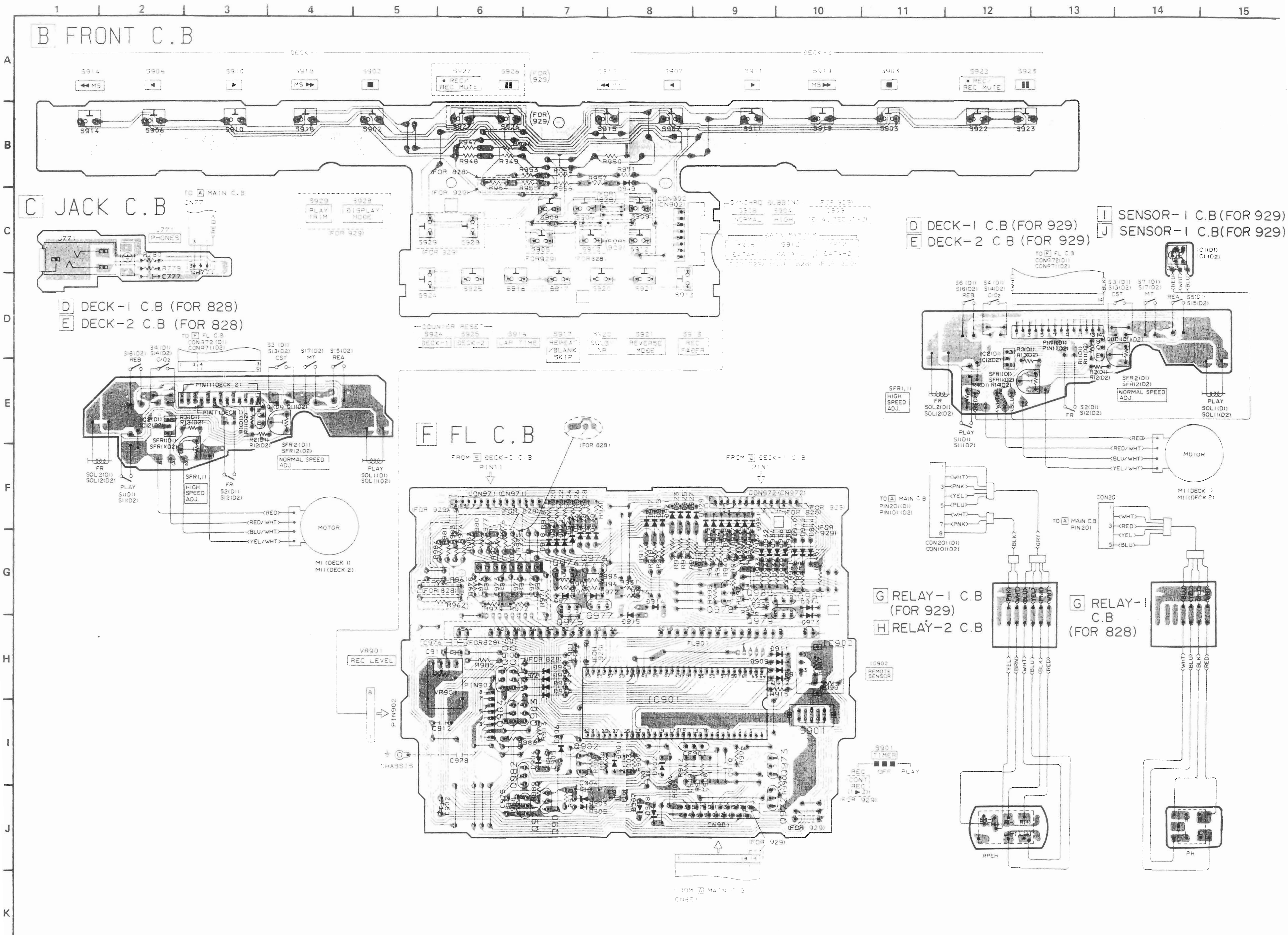




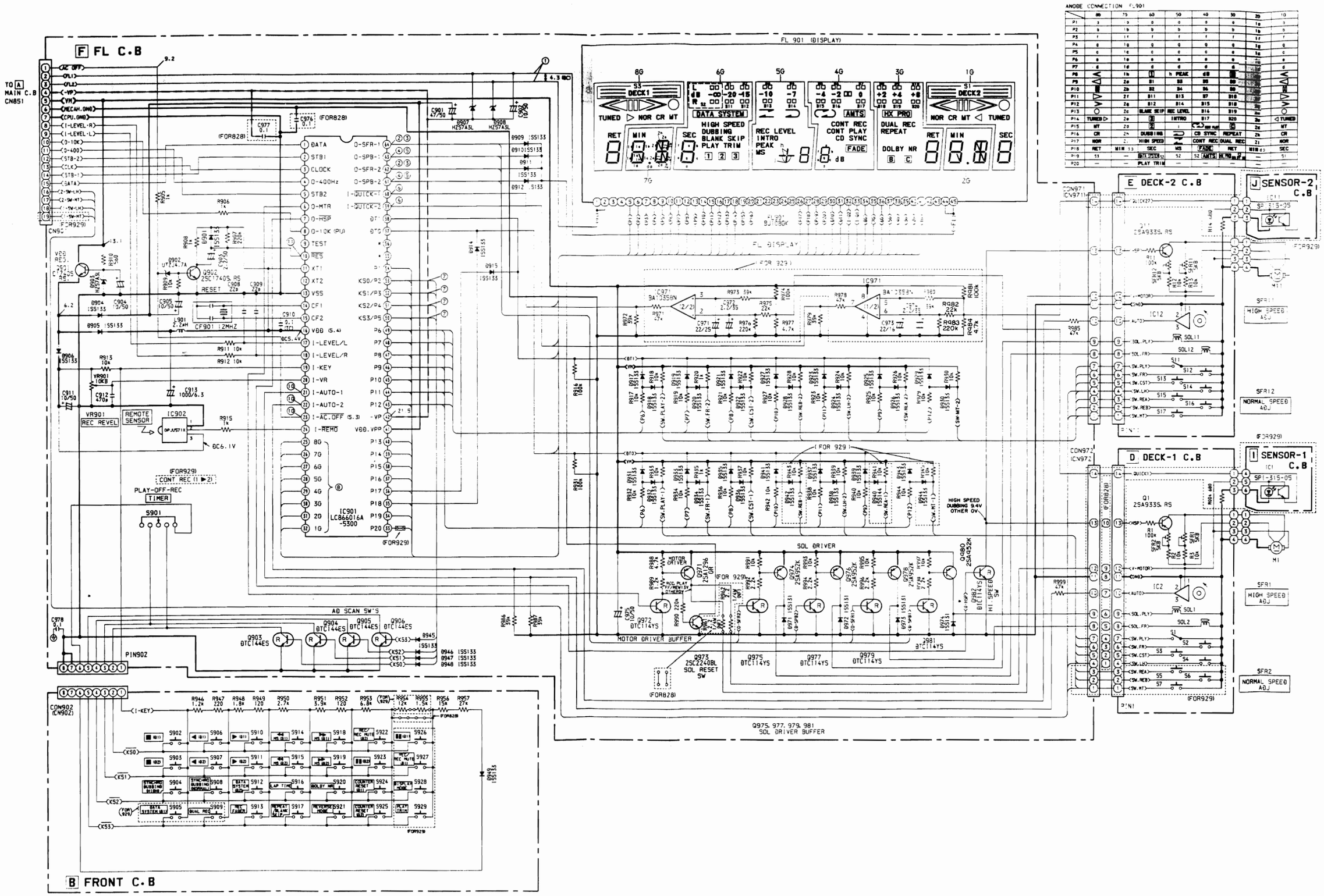
I POWER-1 C.B

SCHEMATIC DIAGRAM – 2 (AD – WX828)




B FRONT C.B
C JACK C.B
D DECK-1 C.B (FOR 828)
E DECK-2 C.B (FOR 828)
F FL C.B
D DECK-1 C.B (FOR 929)
E DECK-2 C.B (FOR 929)
I SENSOR-1 C.B (FOR 929)
J SENSOR-1 C.B (FOR 929)
G RELAY-1 C.B (FOR 929)
H RELAY-2 C.B
G RELAY-1 C.B (FOR 828)
MOTOR
M1 (DECK 1)
M11 (DECK 2)
NORMAL SPEED ADJ.
HIGH SPEED ADJ.
VR901 REC LEVEL
CHASSIS
IC901
FL901
CN901

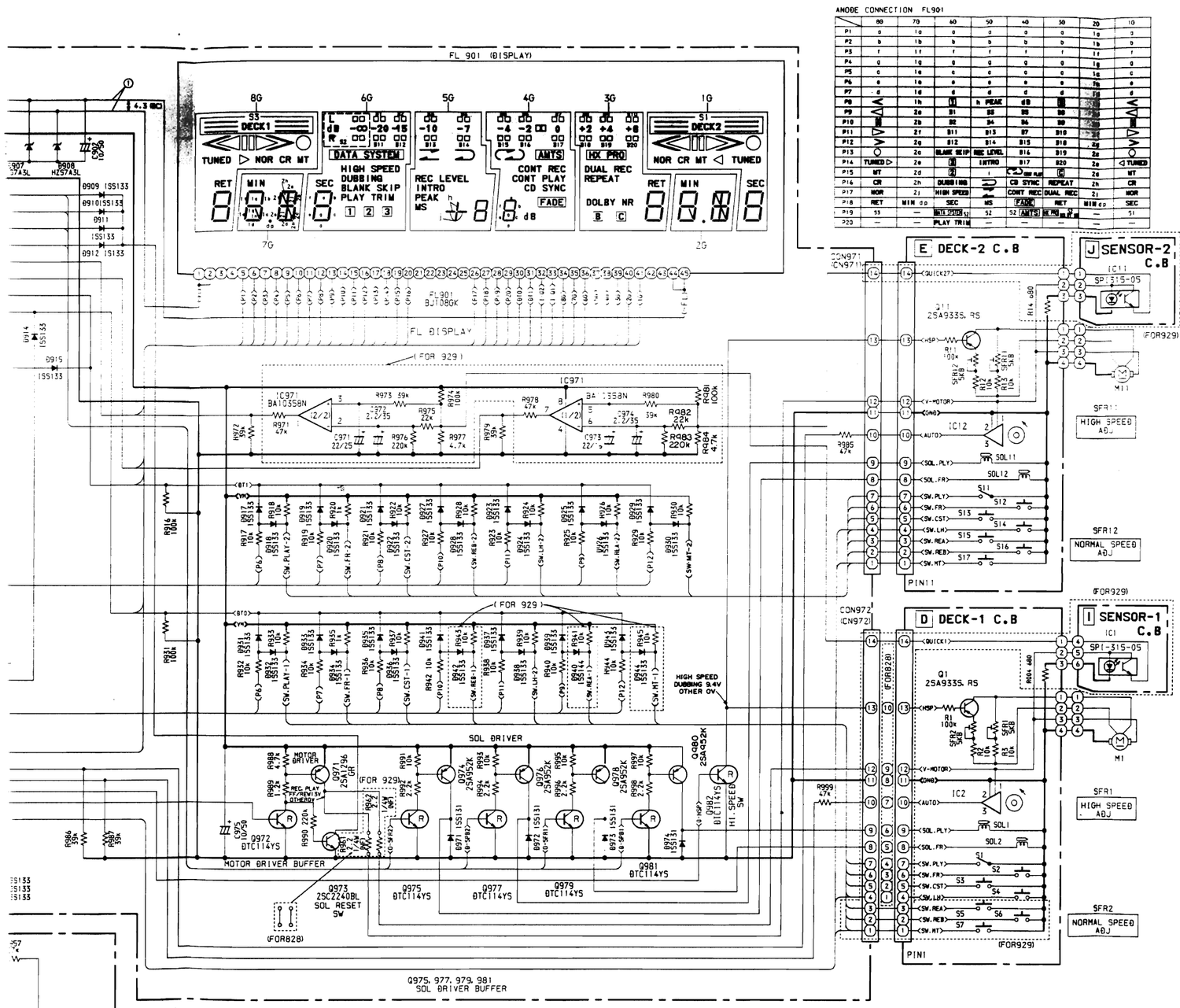
EMATIC DIAGRAM – 3 (AD – WX929,AD – WX828)

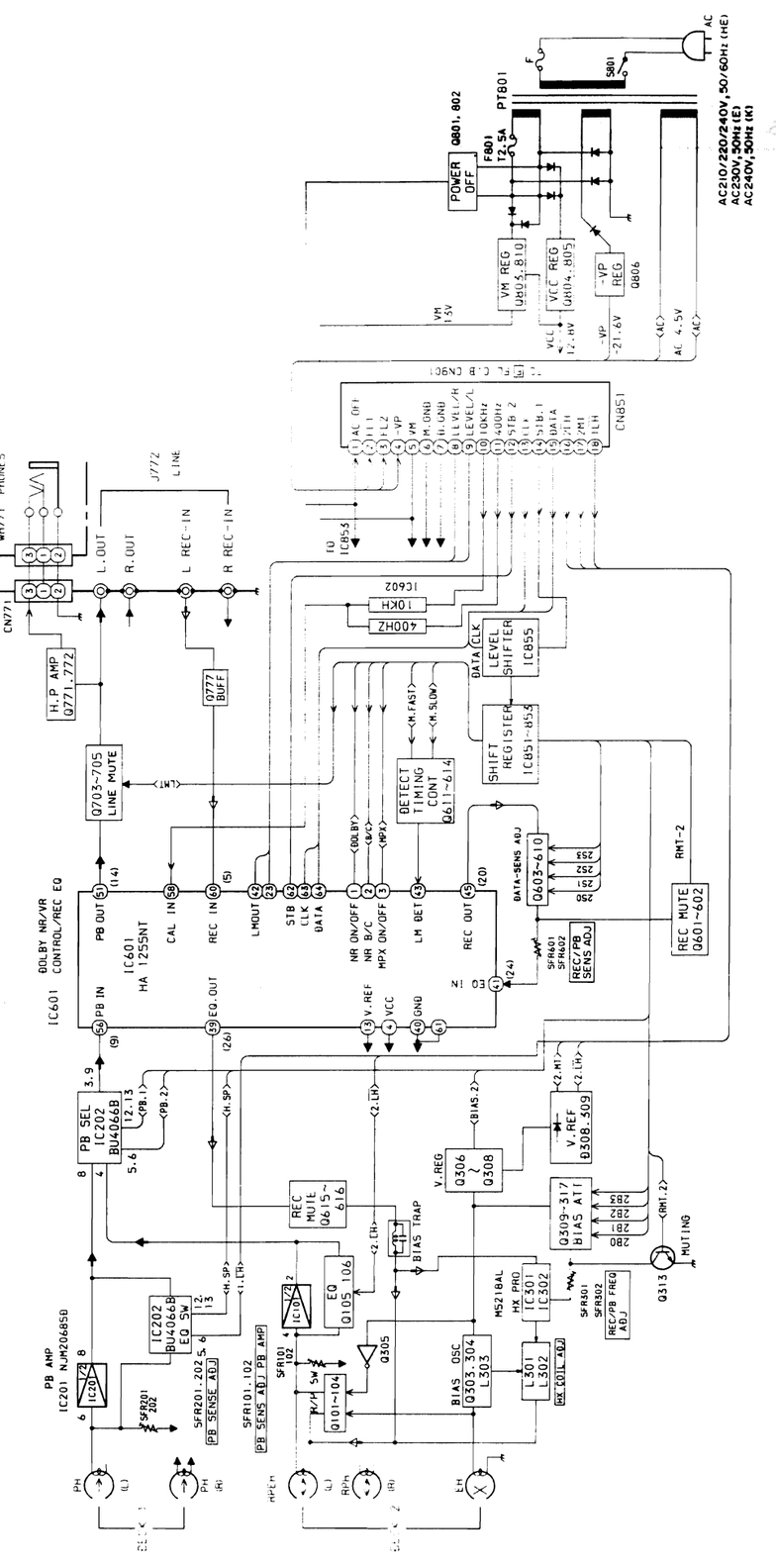


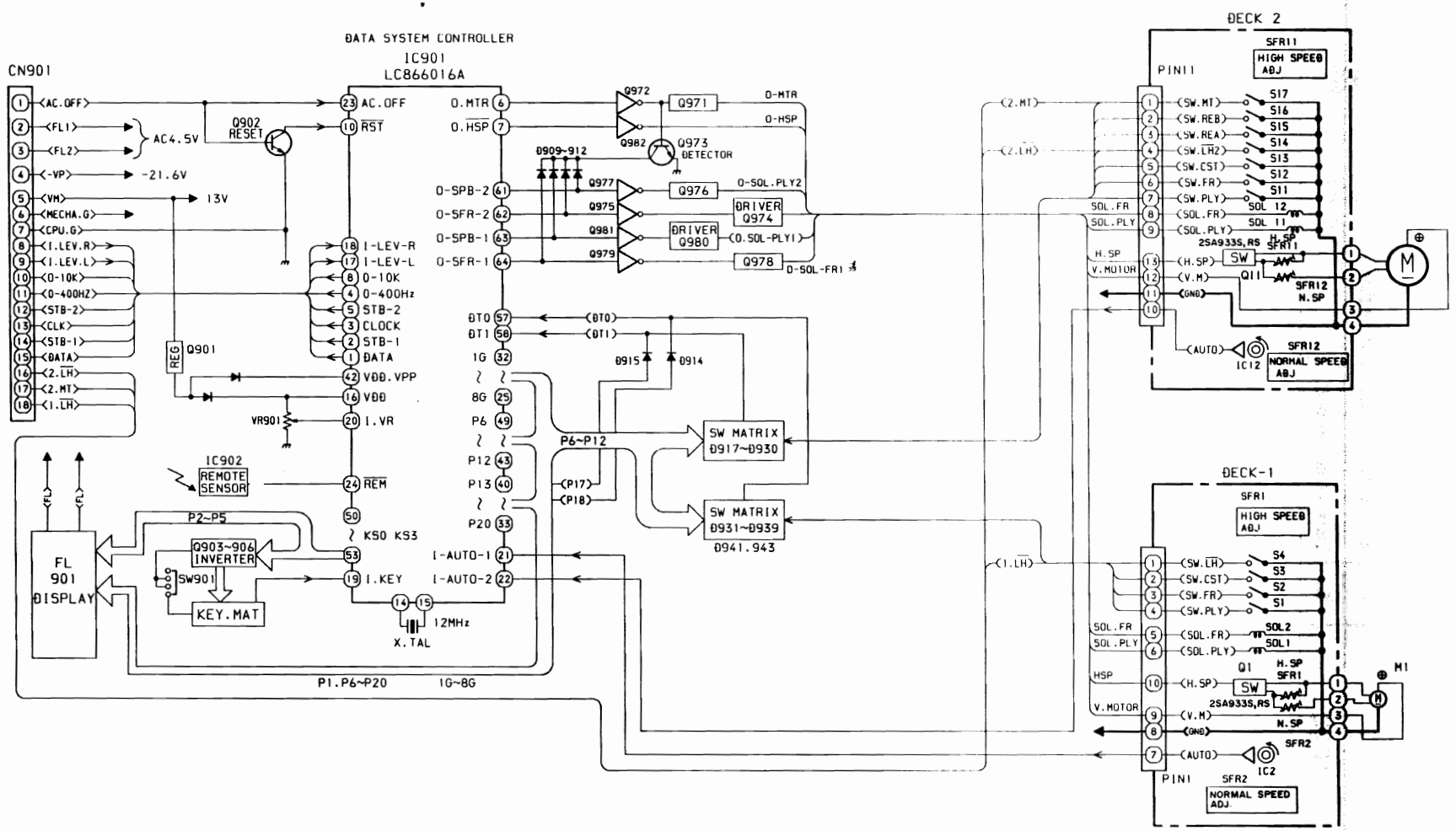
ANODE CONNECTION FL901

	80	70	60	50	40	30	20	10
P1	3	3	0	0	0	0	1α	3
P2	b	1b	b	b	b	b	1b	b
P3	f	1f	f	f	f	f	1f	f
P4	g	1g	g	g	g	g	1g	g
P5	c	1c	c	c	c	c	1c	c
P6	a	1a	a	a	a	a	1a	a
P7	d	1d	d	d	d	d	1d	d
P8		1h			h PEAK	dB		
P9		2e	B1	B3	B5	B9		
P10		2b	B2	B4	B6	B8		
P11		2f	B11	B13	B7	B10		
P12		2g	B12	B14	B15	B18		
P13		2c	BLANK SKIP	REC LEVEL	B16	B19		
P14	TUNED ▷	2e		INTRO	B17	B20		◁ TUNED
P15	NOR	2g						NOR
P16	CR	2h	DUBBING		CR SYNC	REPEAT	2h	CR
P17	NOR	2i	HIGH SPEED		CONT REC	DUAL REC	2i	NOR
P18	RET	MIN 10	SEC	MS	FADE	REV	MIN 10	SEC
P19	S1	—	AUTO PUNCH I/O	S2	S2 (AMTS)	MONO	—	S1
P20	—	—	PLAY TRIM	—	—	—	—	—

BLOCK DIAGRAM (AD – WX828)






DATA SYSTEM CONTROLLER
IC901
LC866016A
CN901
TO
A
MAIN
C.B
CN851
AC.OFF
FL1
FL2
-VP
VM
MECHA.G
CPU.G
I.LEV.R
I.LEV.L
O-10K
O-400HZ
STB-2
CLK
STB-1
DATA
2.LH
2.MT
1.LH
AC4.5V
-21.6V
13V
Q902
RESET
REG
Q901
VR901
I.VR
IC902
REMOTE
SENSOR
REM
KS0 KS3
I.KEY
FL
901
DISPLAY
P2~P5
Q903~906
INVERTER
SW901
KEY.MAT
X.TAL
12MHz
P1.P6~P20
1G~8G
O.MTR
O.HSP
O-SPB-2
O-SFR-2
O-SPB-1
O-SFR-1
Q972
Q982
Q971
Q973
DETECTOR
D909-912
Q977
Q975
Q981
Q979
Q976
Q974
Q980
Q978
O-MTR
O-HSP
O-SOL.PLY2
DRIVER
O-SOL-PLY1
O-SOL-FR1
DTO
DT1
1G
8G
P6
P12
P13
P20
D915
D914
P6~P12
P17
P18
SW MATRIX
D917~D930
SW MATRIX
D931~D939
D941.943
I-AUTO-1
I-AUTO-2
VDD.VPP
VDD
I-LEV-R
I-LEV-L
O-10K
O-400Hz
STB-2
CLOCK
STB-1
DATA
DECK 2
PIN11
SFR11
HIGH SPEED
ADJ
SW.MT
SW.REB
SW.REA
SW.LH2
SW.CST
SW.FR
SW.PLY
SOL.FR
SOL.PLY
S17
S16
S15
S14
S13
S12
S11
SOL 12
SOL 11
2SA933S,RS
H.SP
SFR11
SW
Q11
V.MOTOR
V.M
GND
SFR12
N.SP
AUTO
IC12
SFR12
NORMAL SPEED
ADJ
DECK-1
SFR1
HIGH SPEED
ADJ
S4
S3
S2
S1
SOL2
SOL1
Q1
HSP
M1
SFR2
IC2
PIN1
SFR2
NORMAL SPEED
ADJ.

IC DESCRIPTION

IC, LC866016A – 5300

Pin No.	Pin Name	I/O	Description
1	DATA	O	Serial data output.
2	STB1	O	Strobe output (for shift register).
3	CLOCK	O	Data clock output.
4	0 – 400Hz	O	400Hz oscillation output for data system.
5	STB2	O	Strobe output (for Dolby IC).
6	O – MTR	O	Mechanism motor control output.
7	$\overline{\text{O – HSP}}$	O	Motor speed switching output.
8	O – 10kHz	O	10kHz oscillation output for data system.
9	TEST1	–	System test pin, not connected.
10	$\overline{\text{RES}}$	I	System reset pin.
11	XT1	O	Sub-clock pin, connected to VDD.
12	XT2	I	Sub-clock pin, not connected.
13	VSS	–	System power supply pin, connected to GND.
14	CF1	O	System clock pins. A 12MHz ceramic clock oscillator is connected.
15	CF2	I	
16	VDD	–	System power supply pin, connected to + 5V.
17	I – LEVEL • L	I	Lch meter input. AD converted to 8 bits internally.
18	I – LEVEL • R	I	Rch meter input. AD converted to 8 bits internally.
19	I – KEY	I	AD key scan input.
20	I – VR	I	Volume level detection.
21	I – AUTO1	I	Reel disk rotation pulse inputs for counter.
22	I – AUTO2	I	
23	$\overline{\text{I – AC • OFF}}$	I	Power off detection input.
24	$\overline{\text{I – REMO}}$	I	Serial data input for remote control.
25	G8	O	Grid outputs to drive the FL display. Lights at "H".
26	G7	O	
27	G6	O	
28	G5	O	
29	G4	O	
30	G3	O	
31	G2	O	
32	G1	O	

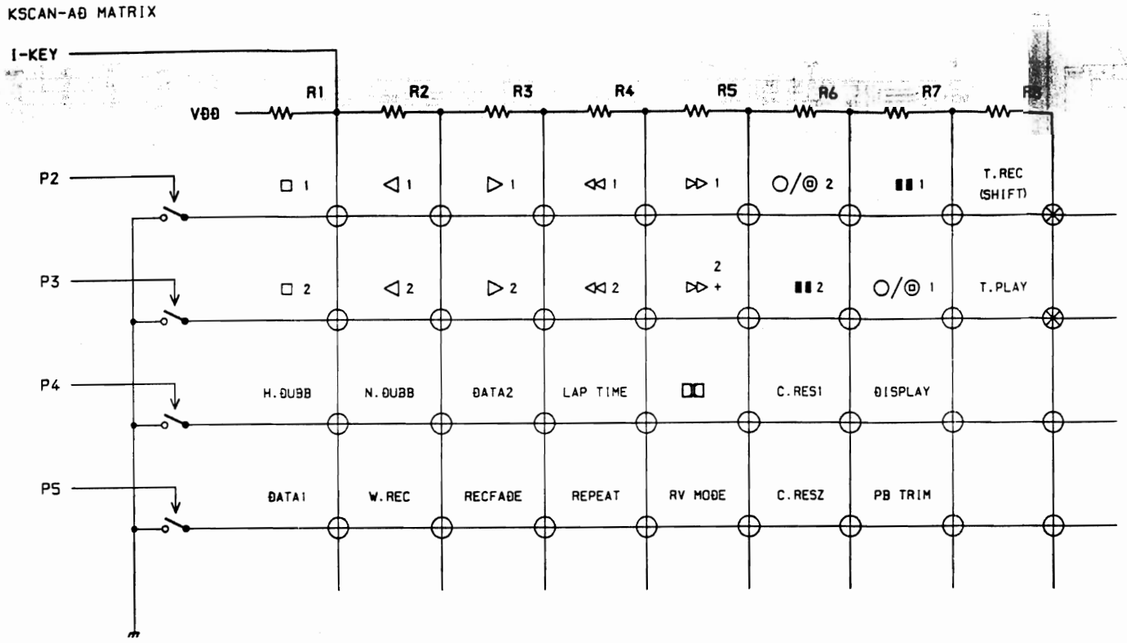
Pin No.	Pin Name	I/O	Description
33	P20	O	Segment outputs to drive the FL display. Lights at "H". P17 – P20 are also used to scan the operation mode during initialization.
34	P19	O	
35	P18	O	
36	P17	O	
37	P16	O	
38	P15	O	
39	P14	O	
40	P13	O	
41	VDDVPP	–	Power supply of FL display drive outputs. Connected to 5V.
42	VP	–	Negative power supply for pull-down resistors. – 27V is connected.
43	P12	O	Segment outputs to drive the FL display. Lights at "H". P2 – P12 are also used as the SW scan and AD scan outputs.
44	P11	O	
45	P10	O	
46	P9	O	
47	P8	O	
48	P7	O	
49	P6	O	
50	P5	O	
51	P4	O	
52	P3	O	
53	P2	O	
54	P1	O	
55	NC	–	Not used.
56	NC	–	
57	DT0	I	SW scan inputs.
58	DT1	I	
59	I – QUICK1	I	Quick sensor inputs.
60	I – QUICK2	I	
61	O – SOL • PL2	O	Outputs to control the plunger driver in the mechanism. The plunger is attracted at "H".
62	O – SOL • FR2	O	
63	O – SOL • PL1	O	
64	O – SOL • FR1	O	

Note : The initial output of P6 and P61 – P64 are set to "L" and others to "H" when reset.

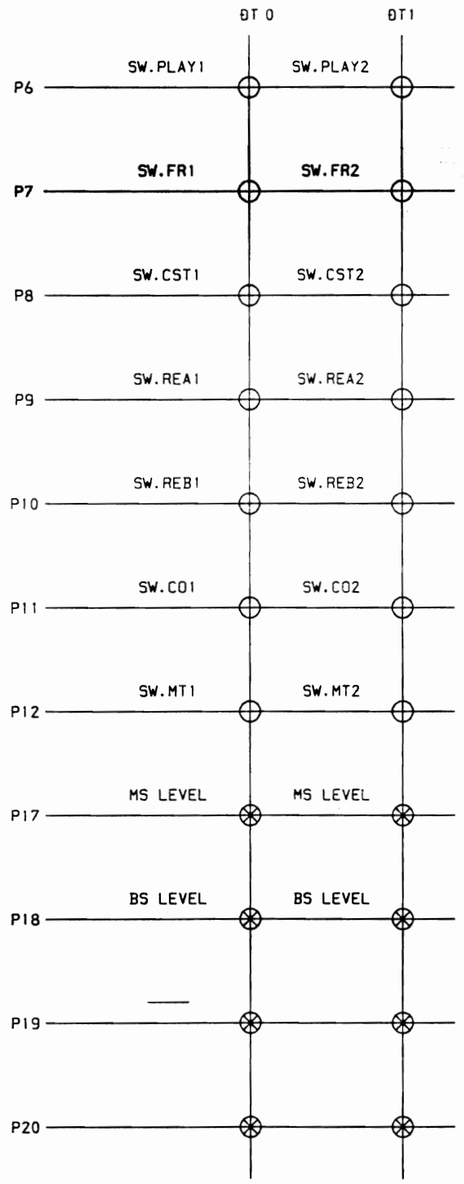
KEY MATRIX

IC, LC866016A – 5300

KSCAN-AØ MATRIX

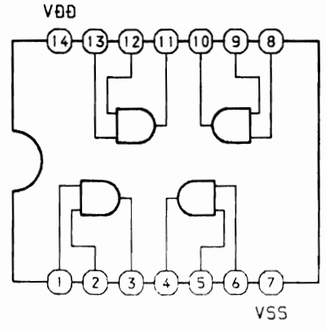


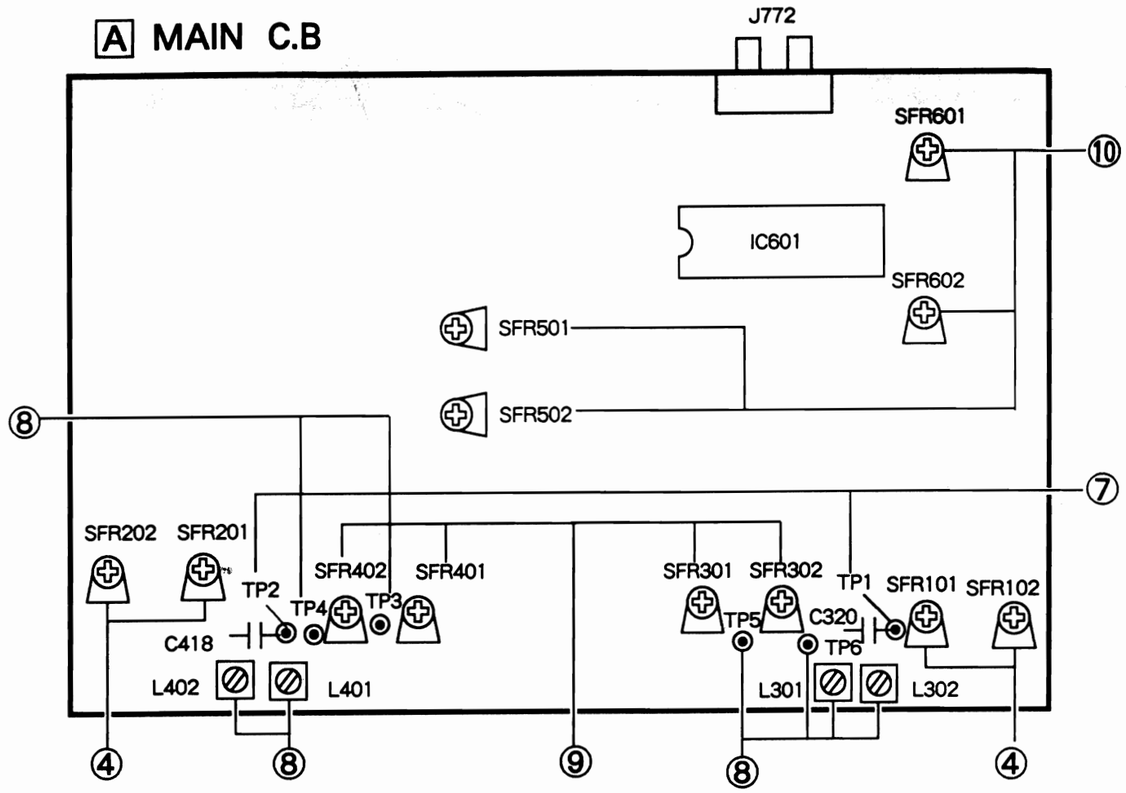
SEGMENT SCAN MATRIX



IC BLOCK DIAGRAM – 2

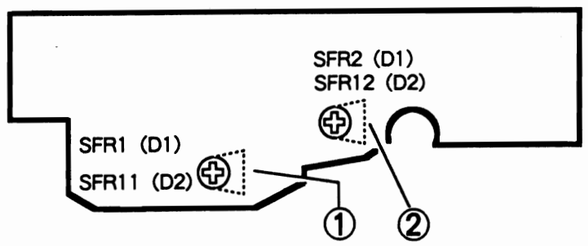
IC, TC4081BP



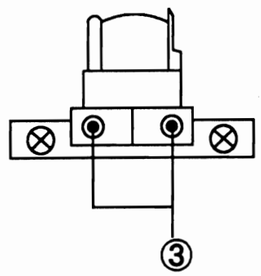


D DECK – 1 C.B
E DECK – 2 C.B

(TOP VIEW)

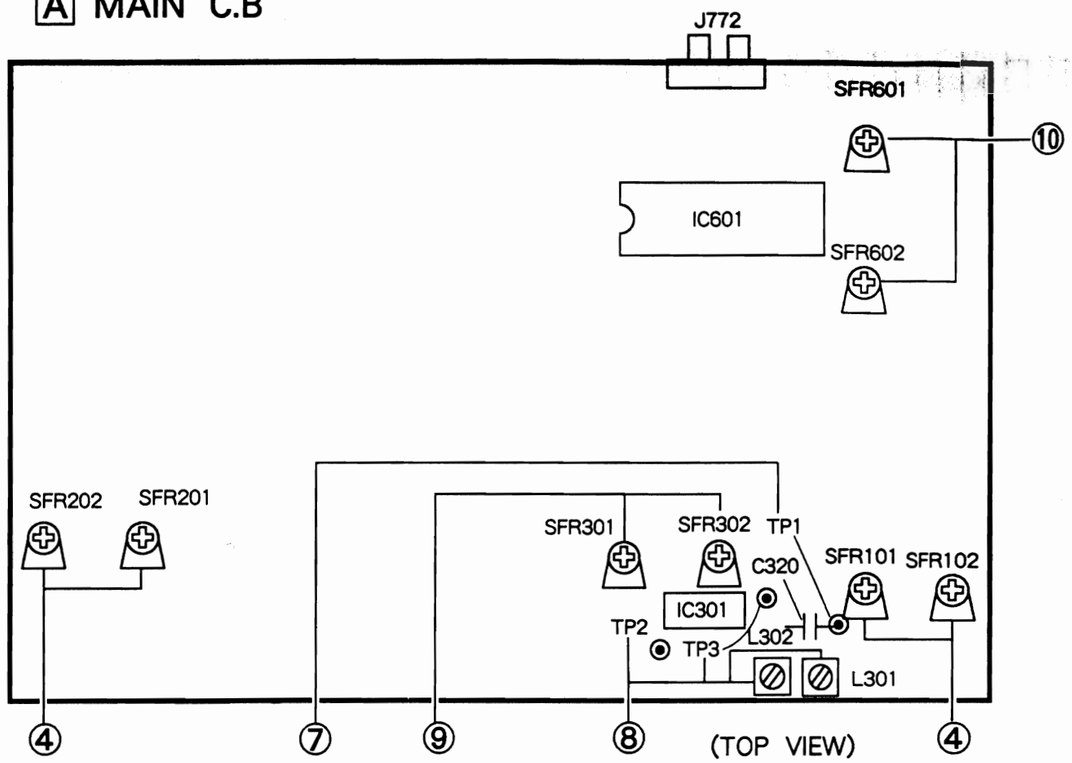


(DECK1, 2) R/P/E HEAD

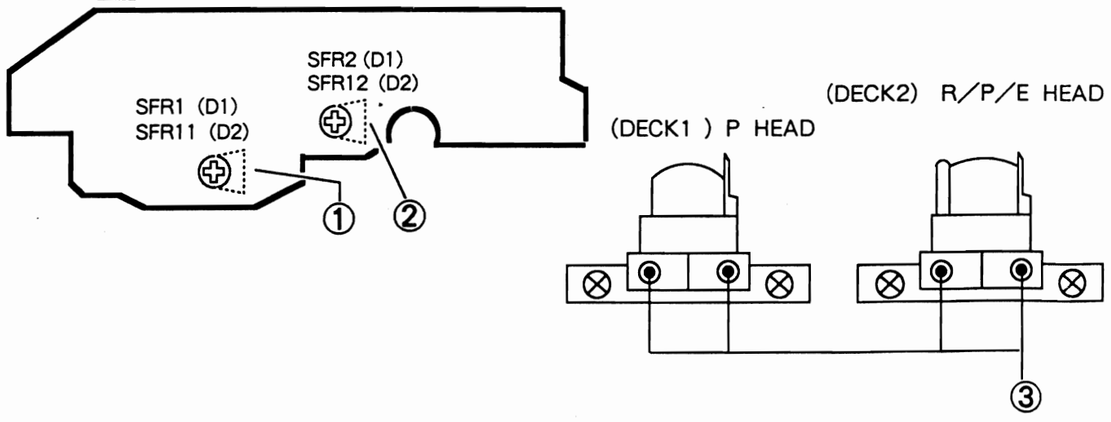


1. High Speed Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 100 (TTA – 111S)
   • Test point : LINE OUT (PIN JACK)
   • Adjustment Location : SFR1 (DECK1)
   SFR11 (DECK2)
   Method : Play back the test tape, and adjust for 5980 ± 20Hz.
2. Normal Speed Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 100 (TTA – 111S)
   • Test point : LINE OUT (PIN JACK)
   • Adjustment Location : SFR2 (DECK1)
   SFR12 (DECK2)
   Method : Play back the test tape, adjust for 3000Hz.
3. Head Azimuth Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 300 (TTA – 317E)
   • Test point : LINE OUT (PIN JACK)
   • Adjustment Location : Head azimuth adjustment screw
   Method : Play back the 10kHz signal of test tape and adjust so that the output is maximum and the waveforms in the lissajours are in phase.
4. PB Sensitivity Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 200 (TTA – 161)
   • Test point : LINE OUT (PIN JACK)
   • Adjustment Location : SFR201 (DECK1, Lch)
   SFR202 (DECK1, Rch)
   SFR101 (DECK2, Lch)
   SFR102 (DECK2, Rch)
   Method : Play back the test tape, and adjust SFR so that the output level of the test point is 480mV.
5. PB Frequency Response Check (DECK1, DECK2)
   Settings : • Test tape : TTA – 300 (TTA – 317E)
   • Test point : LINE OUT (PIN JACK)
   Method : Play back the 315Hz and 10kHz signals of the test tape and check the output of the 10kHz signalis 0dB ± 2dB with respect to that of the 315Hz signal.
6. Level Meter Check (DECK1, DECK2)
   Settings : • Test tape : TTA – 200 (TTA – 161)
   Method : Play back the test tape, and check that the reading of the level meter is light on – 4dB. After check the FL goer out the level by + 2dB.
7. Bias Frequency Check (DECK1, DECK2)
   Settings : • Test tape : TTA – 630
   • Test point : TP1,TP2
   Method : Set to the record mode, and check so that the frequency counter of the test point reads 85kHz ± 3kHz.
8. HX Coil Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 630
   • Test point : TP3, TP4, TP5, TP6
   • Adjustment Location : (DECK1)
   L401 (Lch), L402 (Rch)
   (DECK2)
   L301 (Lch), L302 (Rch)
   Method : Adjust L401, L402 and L301, L302 so that the DC voltage at the test points is minimum in the record mode.
9. REC/PB Frequency Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 601 (TTA – 630)
   • Test point : LINE OUT (PIN JACK)
   • Adjustment Location : (DECK1)
   SFR401 (Lch)
   SFR402 (Rch)
   (DECK2)
   SFR301 (Lch)
   SFR302 (Rch)
   Method : Apply a 1kHz signal and adjust REC LEVEL VR attenuater so that the output level at the LINE OUT jack is 48mV.
   Record and playback the 1kHz and 10kHz signals and adjust so that the output of the 10kHz signal is 0dB ± 0.5dB with respect to that of the 1kHz signal.
10. REC/PB Sensitivity Adjustment (DECK1, DECK2)
    Settings : • Test tape : TTA – 601 (TTA – 630)
    • Test point : LINE OUT (PIN JACK)
    • Adjustment Location : (DECK1)
    SFR501 (Lch)
    SFR502 (Rch)
    (DECK2)
    SFR601 (Lch)
    SFR602 (Rch)
    Method : Apply a 1kHz signal and adjust REC LEVEL VR so that the output level at the LINE OUT is 48mV.
    Record and playback the 1kHz signal and adjust so that the output is 48mV ± 0.5dB.

A MAIN C.B



D DECK – 1 C.B
E DECK – 2 C.B



1. High Speed Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 100 (TTA – 111S)
   • Test point : LINE OUT (PIN JACK)
   • Adjustment Location : SFR1 (DECK1)
   SFR11 (DECK2)
   Method : Play back the test tape, and adjust for 5980 ± 20Hz.
2. **Normal Speed Adjustment (DECK1, DECK2)**
   Settings : • Test tape : TTA – 100 (TTA – 111S)
   • Test point : LINE OUT (PIN JACK)
   • Adjustment Location : SFR2 (DECK1)
   SFR12 (DECK2)
   Method : Play back the test tape, adjust for 3000Hz.
3. Head Azimuth Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 300 (TTA – 317E)
   • Test point : LINE OUT (PIN JACK)
   • Adjustment Location : Head azimuth
   adjustment screw
   Method : Play back the 10kHz signal of test tape and adjust so that the output is maximum and the waveforms in the lissajours are in phase.
4. PB Sensitivity Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 200 (TTA – 161)
   • Test point : LINE OUT (PIN JACK)
   • Adjustment Location : SFR201 (DECK1, Lch)
   SFR202 (DECK1, Rch)
   SFR101 (DECK2, Lch)
   SFR102 (DECK2, Rch)
   Method : Play back the test tape, and adjust SFR so that the output level of the test point is 480mV.
5. PB Frequency Response Check (DECK1, DECK2)
   Settings : • Test tape : TTA – 300 (TTA – 317E)
   • Test point : LINE OUT (PIN JACK)
   Method : Play back the 315Hz and 10kHz signals of the test tape and check the output of the 10kHz signalis 0dB ± 2dB with respect to that of the 315Hz signal.
6. Level Meter Check (DECK1, DECK2)
   Settings : • Test tape : TTA – 200 (TTA – 161)
   Method : Play back the test tape, and check that the reading of the level meter is light on – 2dB.
7. Bias Frequency Check (DECK2)
   Settings : • Test tape : TTA – 630
   • Test point : TP1
   Method : Set to the record mode, and check so that the frequency counter of the test point reads 85kHz ± 3kHz.
8. HX Coil Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 630
   • Test point : TP2, TP3
   • Adjustment Location : L301 (Lch)
   L302 (Rch)
   Method : Adjust L301, L302 so that the DC voltage at the test points is minimumin the record mode.
9. REC/PB Frequency Adjustment (DECK2)
   Settings : • Test tape : TTA – 601 (TTA – 630)
   • Test point : LINE OUT (PIN JACK)
   • Adjustment Location : (DECK2)
   SFR301 (Lch)
   SFR302 (Rch)
   Method : Apply a 1kHz signal and adjust REC LEVEL VR attenuater so that the output level at the LINE OUT jack is 48mV.
   Record and playback the 1kHz and 10kHz signals and adjust so that the output of the 10kHz signal is 0dB ± 0.5dB with respect to that of the 1kHz signal.
10. REC/PB Sensitivity Adjustment (DECK2)
    Settings : • Test tape : TTA – 601 (TTA – 630)
    • Test point : LINE OUT (PIN JACK)
    • Adjustment Location : (DECK2)
    SFR601 (Lch)
    SFR602 (Rch)
    Method : Apply a 1kHz signal and adjust REC LEVEL VR so that the output level at the LINE OUT is 48mV.
    Record and playback the 1kHz signal and adjust so that the output is 48mV ± 0.5dB.

PRACTICAL SERVICE FIGURE (AD – WX929)

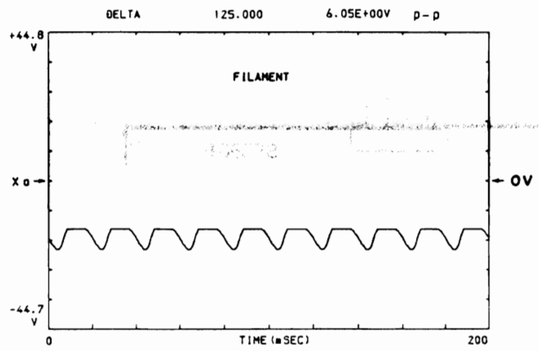
Playback output Level : (TTA-200) (TTA-161, TCC-130)	480mV ± 0.5dB (LINE OUT)	
REC/PB output (TTA-601)	: 0VU ± 1dB (LINE OUT)	
REC/PB distortion	**: Less than 2% (NORM.,CrO_2,MT)**	
Playback noise	**: Less than 4.0/3.5mV (120 μs/70 μs, DOLBY NR OFF)**	
	Less than 1.8/1.5mV (120 μs/70 μs, DOLBY NR B, C)	
Erase ratio (125Hz)	: More than 58dB	
Crosstalk	: More than 60dB	
Channel separation	: More than 30dB	
Level drift (10kHz, TTA-300)	: Within 1.5dB	
DOLBY EFFECT (TTA – 610)	: More than8.5dB (DOLBY NR B)	
	More then17dB (DOLBY NR C)	
REC/PB S/N ratio (LINEAR)	: Less than 4.0/3.5mV (DOLBY NR OFF NORM./MT,CrO_2)	
	Less than 1.8/1.5mV (DOLBY NR B, C NORM./MT,CrO_2)	
Recording bias frequency	**: 85kHz**	
Tape speed	**: 3kHz ± 1.5%**	
Wow & flutter (W.R.M.S)	**: Less than 0.08% (FWD)**	
Take-up torque	: 30~55g-cm	
Fast forward torque	: 75~150g-cm	
Rewind torque	: 75~150g-cm	
Back-tension	: 2~6g-cm	
Test tape	: METAL	TTA-630
	CrO_2	TTA-610 (TTA-119H)
	NORMAL	TTA-601

PRACTICAL SERVICE FIGURE (AD – WX828)

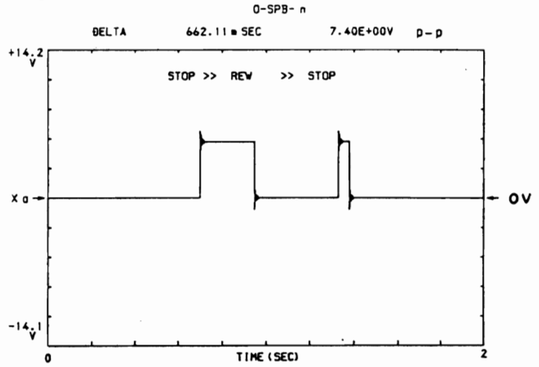
Playback output Level : (TTA-200) (TTA-161, TCC-130)	480mV ± 0.5dB (LINE OUT)	
REC/PB output (TTA-601)	: 0VU ± 1dB (LINE OUT)	
REC/PB distortion	**: Less than 2.5% (NORM.,CrO_2)**	
	Less than 3.0% (MT)	
Playback noise	**: Less than 4.0/3.5mV (120 μs/70 μs, DOLBY NR OFF)**	
	Less than 1.8/1.5mV (120 μs/70 μs, DOLBY NR B, C)	
Erase ratio (125Hz)	: (DECK – 2) More than 58dB	
Crosstalk	: More than 60dB	
Channel separation	: More than 30dB	
Level drift (10kHz, TTA-300)	: Within 1dB	
DOLBY effect (TTA – 610)	: More than8.5dB (DOLBY NR B)	
	More then17dB (DOLBY NR C)	
REC/PB S/N ratio (LINEAR)	: Less than 4.0/3.5mV (DOLBY NR OFF NORM./MT,CrO_2)	
	Less than 1.8/1.5mV (DOLBY NR B, C NORM./MT,CrO_2)	
Recording bias frequency	**: (DECK – 2) 85kHz**	
Tape speed	**: 3kHz ± 1.5%**	
Wow & flutter (W.R.M.S)	**: Less than 0.08% (FWD)**	
Take-up torque	: 30~55g-cm	
Fast forward torque	: 70~150g-cm	
Rewind torque	: 70~150g-cm	
Back-tension	: 2~6g-cm	
Test tape	: METAL	TTA-630
	CrO_2	TTA-610 (TTA-119H)
	NORMAL	TTA-601

WAVE FROM

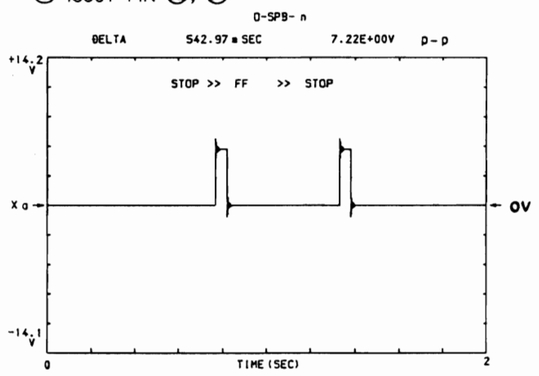
① FL901 PIN ①, ②, ㊹, ㊺



② IC901 PIN ㊷, ㊹



③ IC901 PIN ㊷, ㊹



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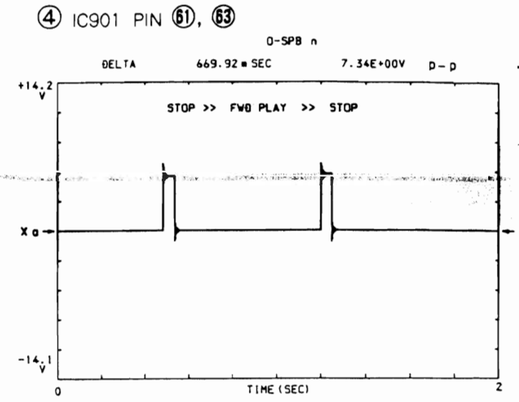

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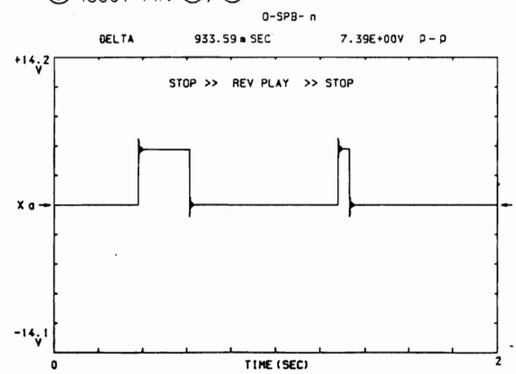

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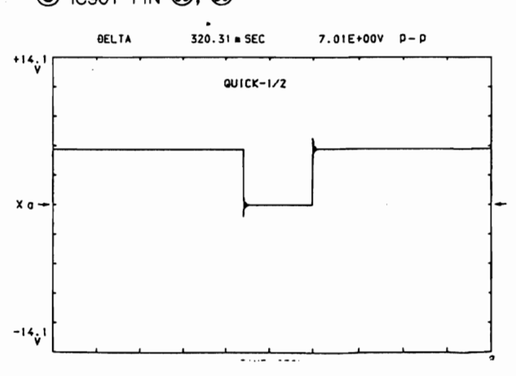

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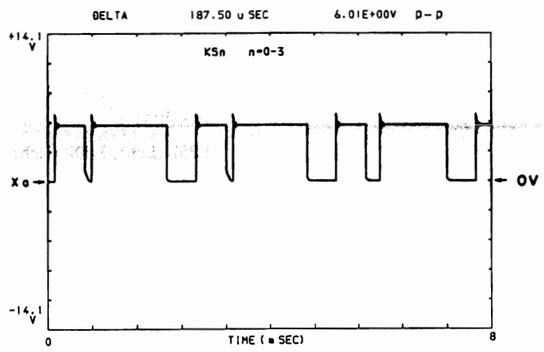

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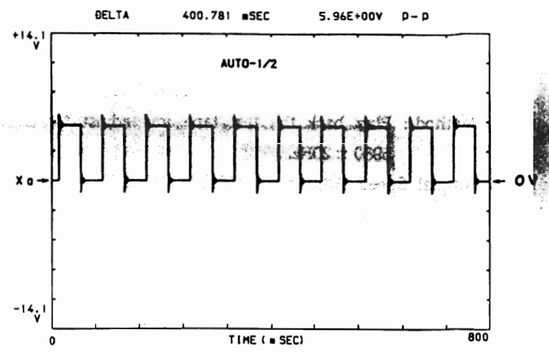

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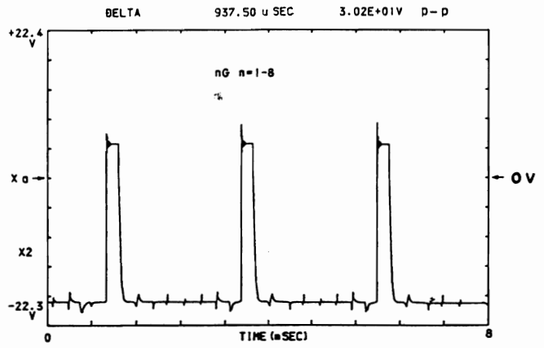
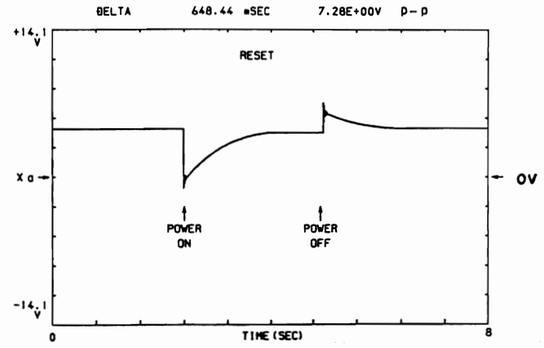
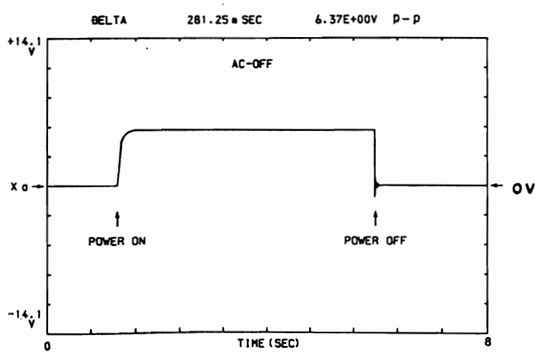


⑪ IC901 PIN ⑩

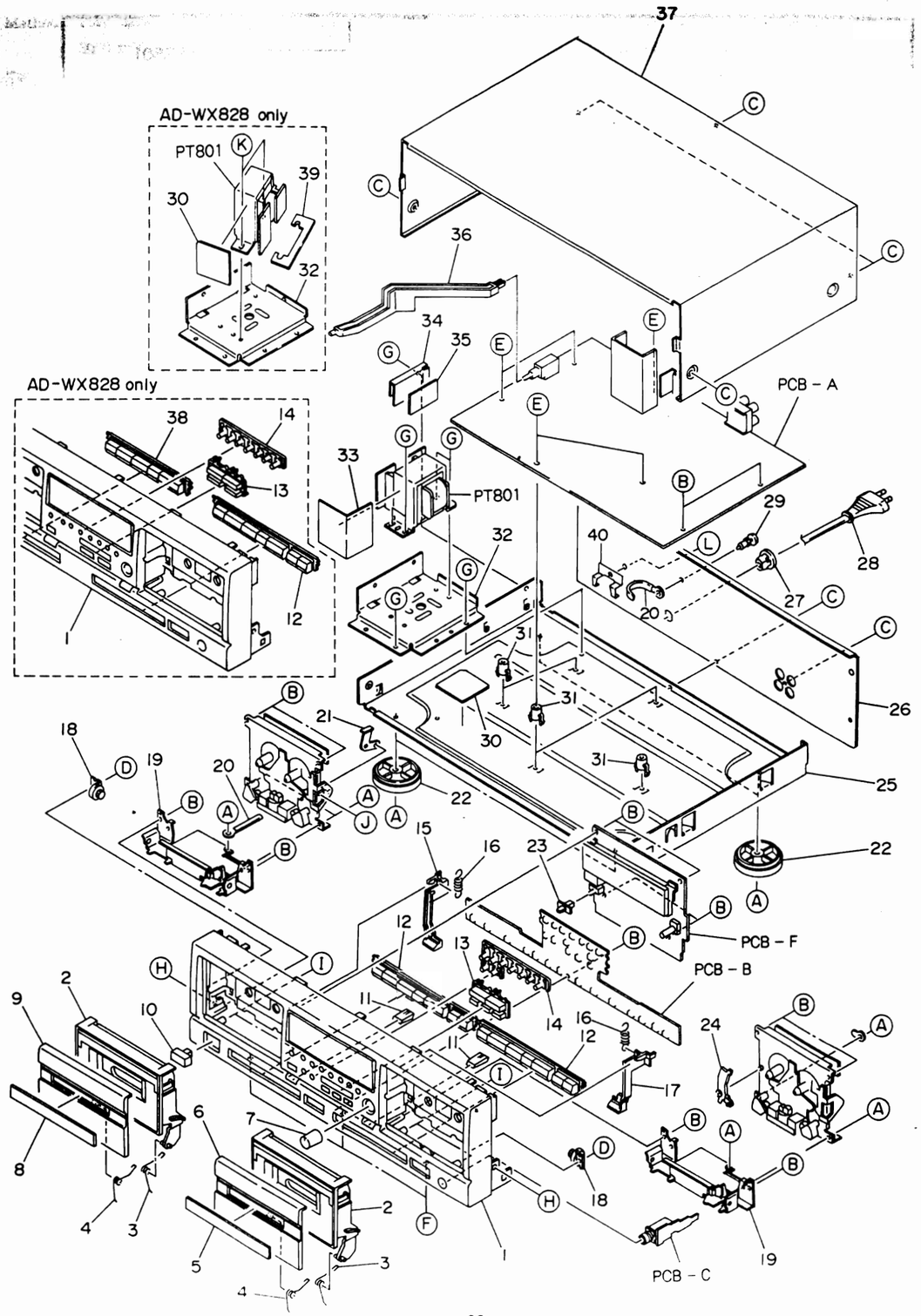


⑨ IC901 PIN ㉓



EXPLODED VIEW – 1 (AD – WX929,AD – WX828)

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
A	87-067-584-010	BVT$_2$+3-6	E	87-067-698-010	BVT$_2$+3-18 W/O SLOT	I	87-067-978-010	VFT$_1$+3-8 DIA10 BLK
B	87-067-579-010	BVT$_2$+3-8 W/O SLOT	F	87-067-777-010	BVTT+3-6 W, CONVEX BLK	J	87-067-977-010	S-SCREW+2.6-2.5
C	87-067-660-010	BVT$_2$+3-8 W/O SLOT BLK	G	87-067-585-010	BVTT+4-6	K	87-067-586-010	BVTT+4-8
D	87-067-703-010	BVT$_2$+3-10 W/O SLOT	H	87-591-094-410	QIT+3-6	L	87-253-094-419	U+3-6 BLK

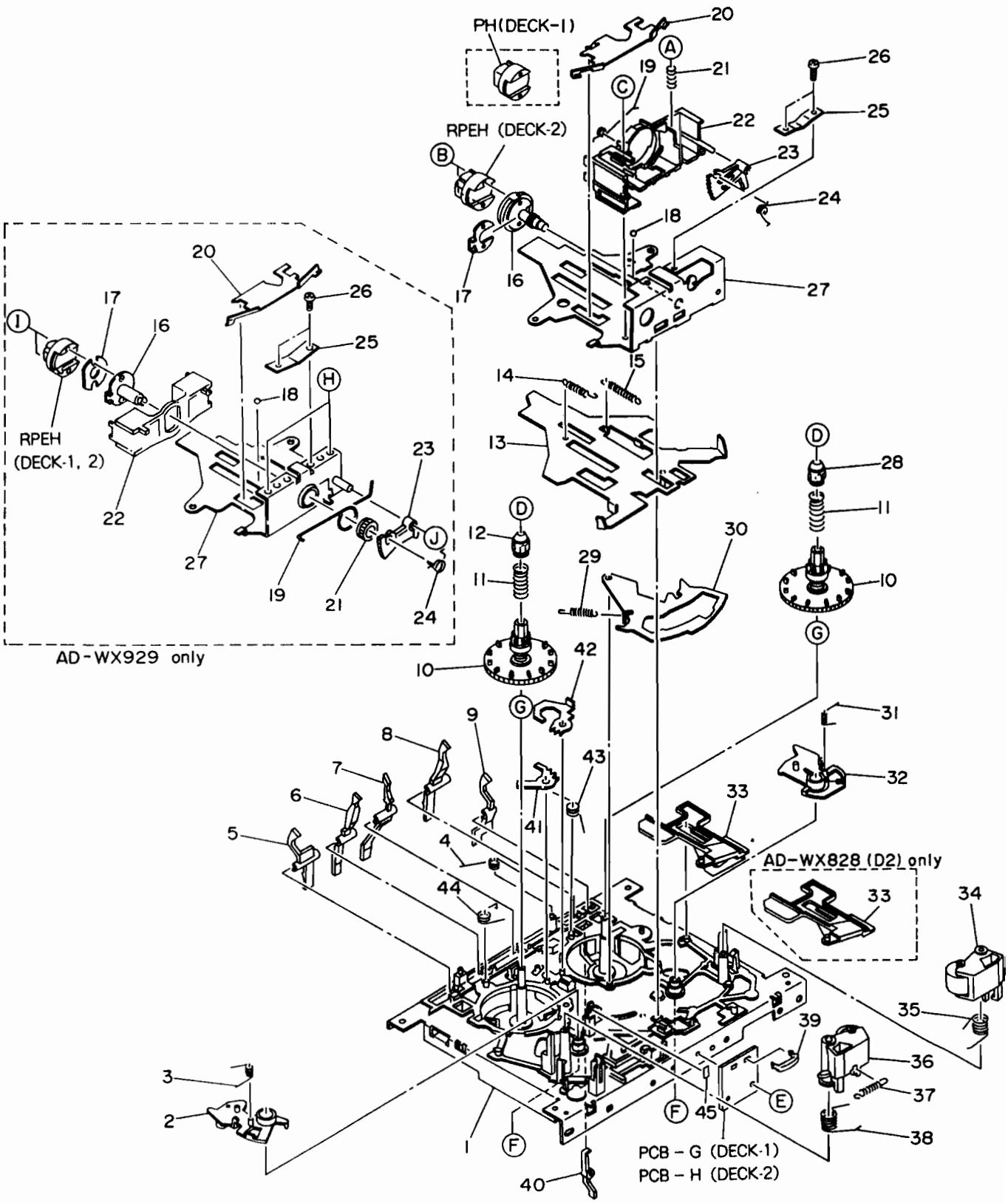


MECHANICAL PARTS LIST (AD – WX929,AD – WX828)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	1-1	★09-047-738-010	CAB FR ASSY(WX828)	*	1
	1-1	★09-047-739-010	CAB FRONT ASSY(WX929)	*	1
	1-2	★09-047-508-010	CASS BOX ASSY	*	2
	1-3	★82-DW1-213-010	SPR-T, EJECT 2(E, K)	*	2
	1-3	★82-DW1-218-019	SPR-T, EJECT 2(HE, EN, KN)	*	2
	1-4	★82-DW1-212-010	SPR-T, EJECT 1(E, K)	*	2
	1-4	★82-DW1-217-019	SPR-T, EJECT 1(HE, EN, KN)	*	2
	1-5	★82-DW1-016-019	WINDOW, C-BOX R	*	1
	1-6	★82-DW2-007-019	PANEL, C-BOX 2R(WX828)	*	1
	1-6	★82-DW1-011-019	PANEL, C-BOX 1R(WX929)	*	1
	1-7	★82-DW1-007-019	KNOB, VOL	*	1
	1-8	★82-DW1-013-019	WINDOW, C-BOX L	*	1
	1-9	★82-DW2-006-019	PANEL, C-BOX 2L(WX828)	*	1
	1-9	★82-DW1-010-019	PANEL, C-BOX 1L(WX929)	*	1
	1-10	★82-AA1-016-019	BTN, POWER		1
	1-11	★82-DW1-008-019	BTN, EJECT	*	2
	1-12	★82-DW1-004-019	KEY, PLAY 1(WX828)	*	1
	1-12	★82-DW1-004-019	KEY, PLAY 1(WX929)	*	2
	1-13	★82-DW2-003-019	KEY, DUBB 2(WX828)	*	1
	1-13	★82-DW1-005-019	KEY, DUBB 1(WX929)	*	1
	1-14	★82-DW2-004-019	KEY, DOLBY 2(WX828)	*	1
	1-14	★82-DW1-006-019	KEY, DOLBY 1(WX929)	*	1
	1-15	★82-DW1-202-010	LVR, EJECT L	*	1
	1-16	★82-DW1-214-010	SPR-E, LVR(E, K)	*	2
	1-16	★82-DW1-219-019	SPR-E, LVR(HE, EN, KN)	*	2
	1-17	★82-DW1-203-010	LVR, EJECT R	*	1
	1-18	★87-063-143-010	OIL-DMPR 75		2
	1-19	★82-DW1-204-010	HLDR, MECHA	*	2
	1-20	---	WIRE BINDER(WX929)		2
	1-21	★82-DW1-215-010	LVR, PROTECT R-2	*	1
	1-22	★82-AA1-029-010	FOOT		4
	1-23	★82-DW1-017-019	KNOB, SLIDE	*	1
	1-24	★80-DW1-206-019	LVR, EJECT ST	*	1
	1-25	---	CHAS, MAIN		1
	1-26	★82-DW2-014-019	PANEL, REAR 2-E(WX828 E)	*	1
	1-26	★82-DW2-015-019	PANEL, REAR 2-K(WX828 K)	*	1
	1-26	★82-DW2-016-019	PANEL, REAR 2-HEJN(WX828 HE)	*	1
	1-26	★82-DW2-001-019	PANEL, REAR 2-EN(WX828 EN)	*	1
	1-26	★82-DW2-011-019	PANEL, REAR 2-KN(WX828 KN)	*	1
	1-26	★82-DW1-024-019	PANEL, REAR 1-E(WX929 E)	*	1
	1-26	★82-DW1-025-019	PANEL, REAR 1-K(WX929 K)	*	1
	1-26	★82-DW1-027-019	PANEL, REAR 1-HEJN(WX929 HE)	*	1
	1-26	★82-DW1-003-019	PANEL, REAR 1-EN(WX929 EN)	*	1
	1-26	★82-DW1-021-019	PANEL, REAR 1-KN(WX929 KN)	*	1
	1-27	★87-085-185-010	BUSHING, AC CORD		1
	1-28	★82-187-796-019	AC CORD(K)		1
	1-28	★82-187-797-019	AC CORD(HE, E)		1
	1-29	★87-084-077-010	NYLON RIVET DIA 3.5 - 4.5(WX929)		1
	1-30	★82-231-615-010	SILICON BOARD 43-43		1
	1-31	★81-670-214-010	HOLDER, PCB		5
	1-32	---	HLDR, PT	*	1
	1-33	★84-117-637-010	PLATE, SHIELD PT(WX929)		1
	1-34	★82-DW1-222-110	COVER, PT(WX929)	*	1
	1-35	★82-DW1-223-010	SH, PT(WX929)	*	1
	1-36	★82-DW1-207-010	ROD, POWER	*	1
	1-37	★82-DW1-002-019	CAB, STEEL	*	1
	1-38	★82-DW2-002-019	KEY, PLAY 2(WX828)	*	1
	1-39	---	PLATE, PT(WX828)		1
	1-40	★80-DS3-208-019	HLDR, VS2(HE)		1

EXPLODED VIEW – 2 (AD – WX929,AD – WX828)

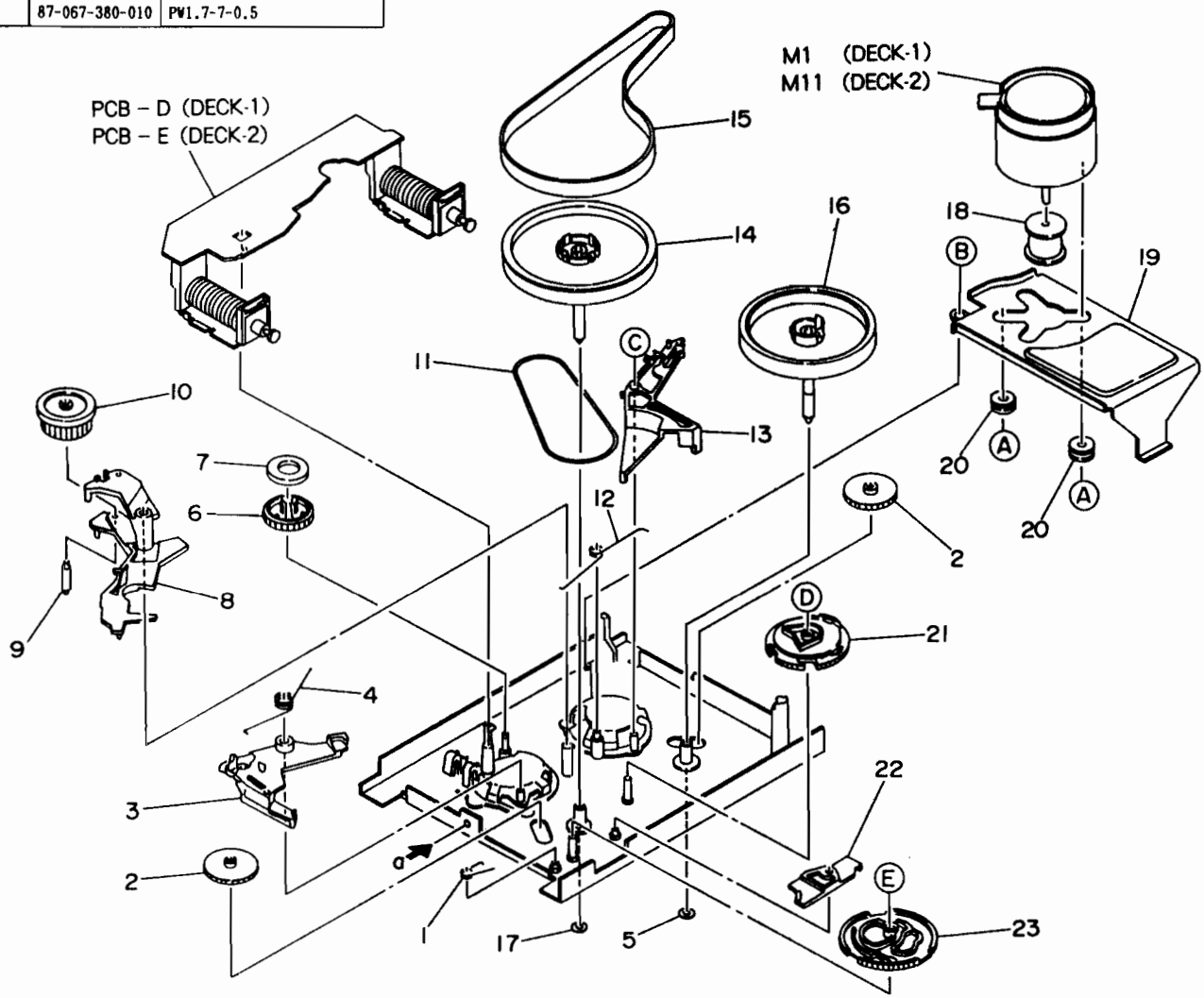
REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
A	86-575-363-210	S-SCREW V+2-8	E	87-067-174-010	VTT+2-4	I	87-067-177-010	V+1.6-5.5
B	80-ZM6-207-010	V+1.6-7	F	80-ZM6-250-010	PW4.8-8.5-0.13	J	87-081-489-010	PW1.7-3.5-0.25
C	87-263-033-110	V+2-4	G	87-067-825-010	PW4.1-6.9-0.25			
D	86-524-418-010	VFT$_2$+1.4-5	H	86-575-236-010	S-SCREW TAPE ADJ			



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	2-1	★86-575-407-010	MECHANISM CHASSIS ASSY	*	1
	2-2	★86-535-239-110	LEVER, PLAY R		1
	2-3	★86-535-283-010	T-SPRING, PLAY GEAR R		1
	2-4	★80-ZM6-206-010	T-SPRING CASSETTE		1
	2-5	★86-575-322-110	LEVER, REC A (D2)	*	1
	2-6	★86-575-325-210	LEVER, METAL (D2)	*	1
	2-7	★86-575-324-310	LEVER, CASSETTE	*	1
	2-8	★86-575-327-210	LEVER, CLOME	*	1
	2-9	★86-575-323-010	LEVER, REC B (D2)	*	1
	2-10	★80-ZM6-254-210	GEAR REEL ASSY L		2
	2-11	★86-535-293-010	C-SPRING, REEL TABLE		2
	2-12	★86-524-218-319	STOPPER, S REEL TABLE		1
	2-13	★86-535-215-410	SLIDE PLATE ASSY		1
	2-14	★86-535-285-110	E-SPRING, SLIDE		1
	2-15	★86-575-226-010	E-SPRING, HEAD CHASSIS	*	1
	2-16	86-575-411-110	HOLDER, HOUSING(WX828)	*	1
	2-16	★86-575-398-010	HEAD, HOUSING ASSY 2(WX929)	*	1
	2-17	★86-575-305-010	PLATE, HOUSING(WX828)	*	1
	2-17	★86-535-338-010	HEAD, MYLER(WX929)		1
	2-18	★87-073-018-010	BALL, STEEL 1.588		1
	2-19	★86-575-310-210	T-SPRING, HEAD(WX828)	*	1
	2-19	★86-575-240-010	T-SPRING, GUIDE(WX929)	*	1
	2-20	★86-575-347-110	P-SPRING, HEAD 2(WX828)	*	1
	2-20	★86-535-289-210	P-SPRING, ACTUATING(WX929)		1
	2-21	★86-541-318-110	T-SPRING, AZIMUTH(WX828)		1
	2-21	★86-575-206-010	HEAD, FR GEAR(WX929)	*	1
	2-22	★86-575-288-510	GUIDE, TAPE(WX828)	*	1
	2-22	★86-575-214-110	GUIDE, TAPE(WX929)		1
	2-23	★86-575-290-310	GEAR, SEGUMENT(WX828)	*	1
	2-23	★86-535-246-210	GEAR, SEGUMENT(WX929)		1
	2-24	★80-ZM6-229-110	T-SPRING, SEGUMENT GEAR 2(WX828)		1
	2-24	★86-575-259-110	T-SPRING, SEGUMENT GEAR(WX929)		1
	2-25	★86-575-343-110	P-SPRING, AZIMUTH 2(WX828)	*	1
	2-25	★86-524-300-110	P-SPRING, AZIMUTH(WX929)		1
	2-26	★80-ZM6-251-010	S-SCREW, AZIMUTH(WX828)		2
	2-26	★86-535-297-010	SCREW, AZIMUTH 3H(WX929)		2
	2-27	★86-575-311-410	CHASSIS, HEAD(WX828)	*	1
	2-27	★86-575-209-410	CHASSIS, HEAD ASSY(WX929)	*	1
	2-28	★86-524-233-219	STOPPER, T REEL PLATE		1
	2-29	★86-535-284-110	E-SPRING, DIRECTION LEVER		1
	2-30	★86-535-218-310	DIRECTION LEVER ASSY		1
	2-31	★86-535-282-010	T-SPRING, PLAY GEAR F		1
	2-32	★86-535-238-310	LEVER, PLAY F		1
	2-33	★82-DW1-216-010	LEVER, SLIDE(WX828 EXCEPT D2)		1
	2-33	★86-575-345-310	LEVER, SW2(WX828 D2)	*	1
	2-34	★86-575-408-010	PINCH LEVER ASSY F	*	1
	2-35	★86-575-222-110	T-SPRING, PINCH ROLLER F	*	1
	2-36	★86-575-409-010	PINCH LEVER ASSY R	*	1
	2-37	★86-575-339-010	E-SPRING, PINCH 22	*	1
	2-38	★86-575-341-110	T-SPRING, PINCH L(WX828)	*	1
	2-38	★86-575-223-110	T-SPRING, PINCH R(WX929)	*	1
	2-39	★86-575-342-010	HOLDER, WIRE 2	*	1
	2-40	★86-575-326-310	LEVER, RINK	*	1
	2-41	★86-535-252-210	LEVER, BRAKE R		1
	2-42	★86-535-251-110	LEVER, BRAKE F		1
	2-43	★86-575-416-010	T-SPRING, BRAKE F	*	1
	2-44	★86-575-417-010	T-SPRING, BRAKE RS	*	1
	2-45	★86-517-353-010	QUICK, SHEET(WX929)		1

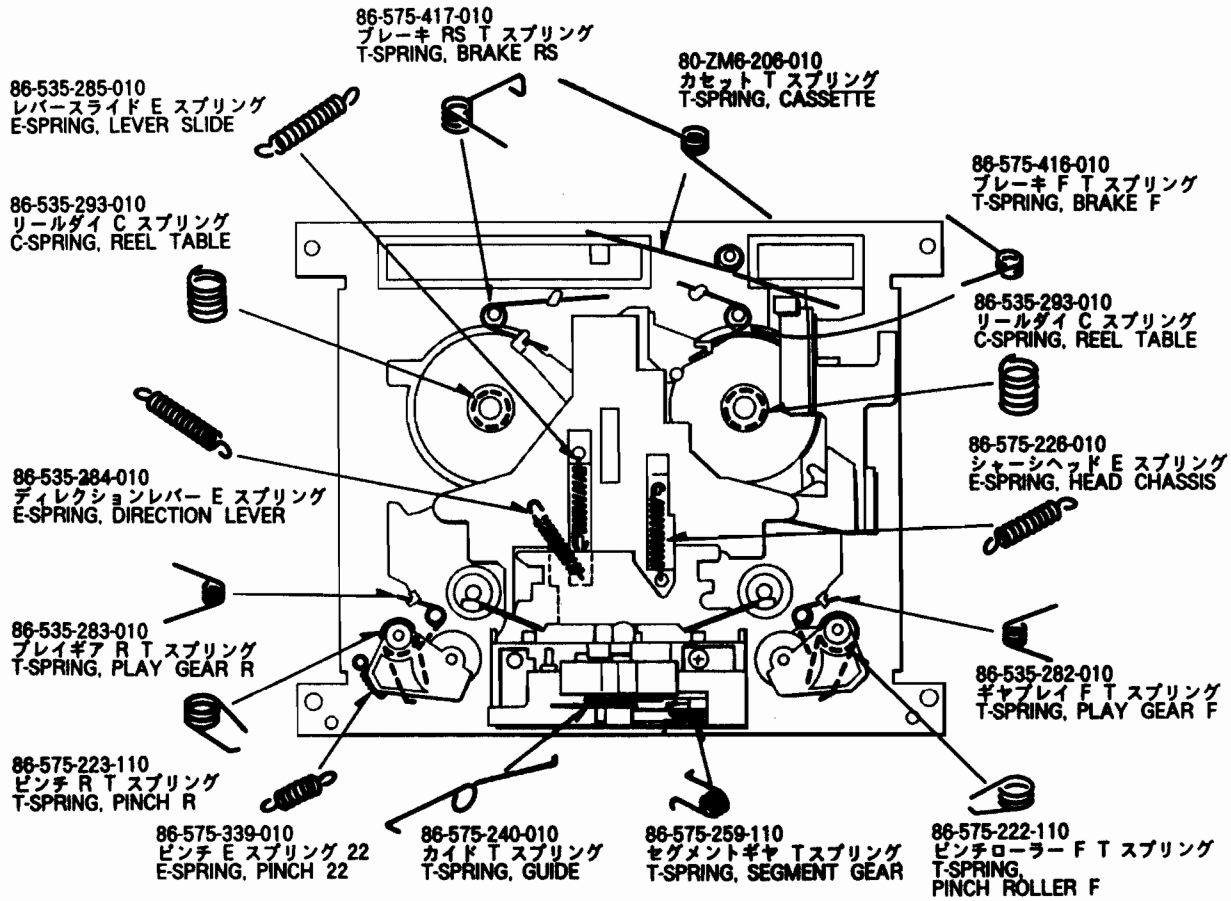
EXPLODED VIEW – 3 (AD – WX929,AD – WX828)

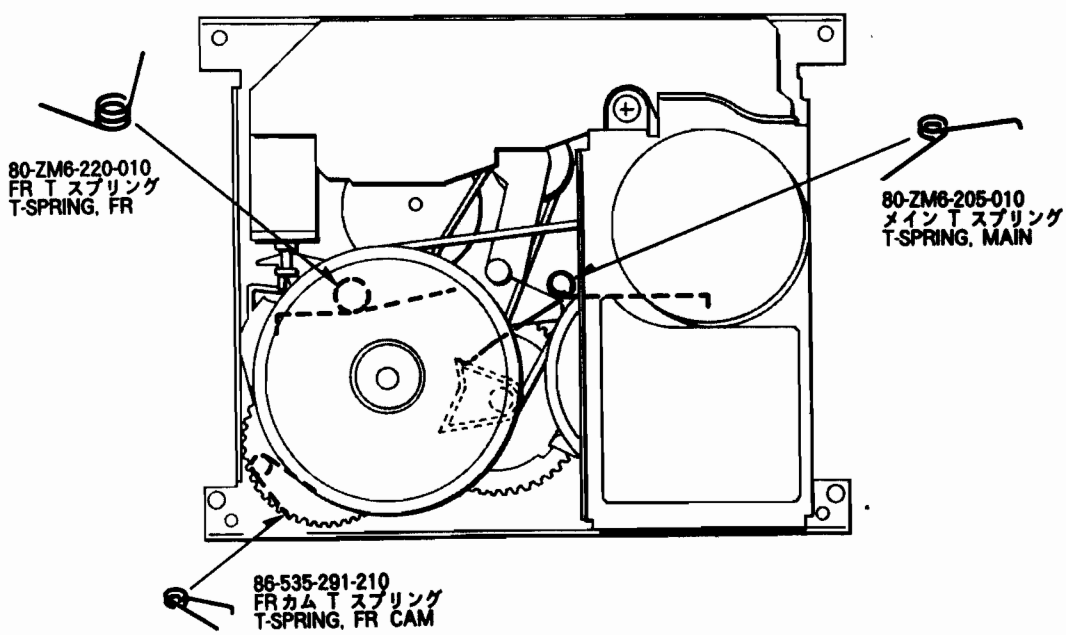
REF.NO.	PART NO.	DESCRIPTION
A	86-524-457-010	U+2.6-5.5
B	87-741-072-410	UT$_2$+2.6-5
C	80-ZM6-211-010	PW2.68-4.15-0.3 SLOT
D	87-081-489-010	PW1.7-3.5-0.25 SLOT
E	87-067-380-010	PW1.7-7-0.5



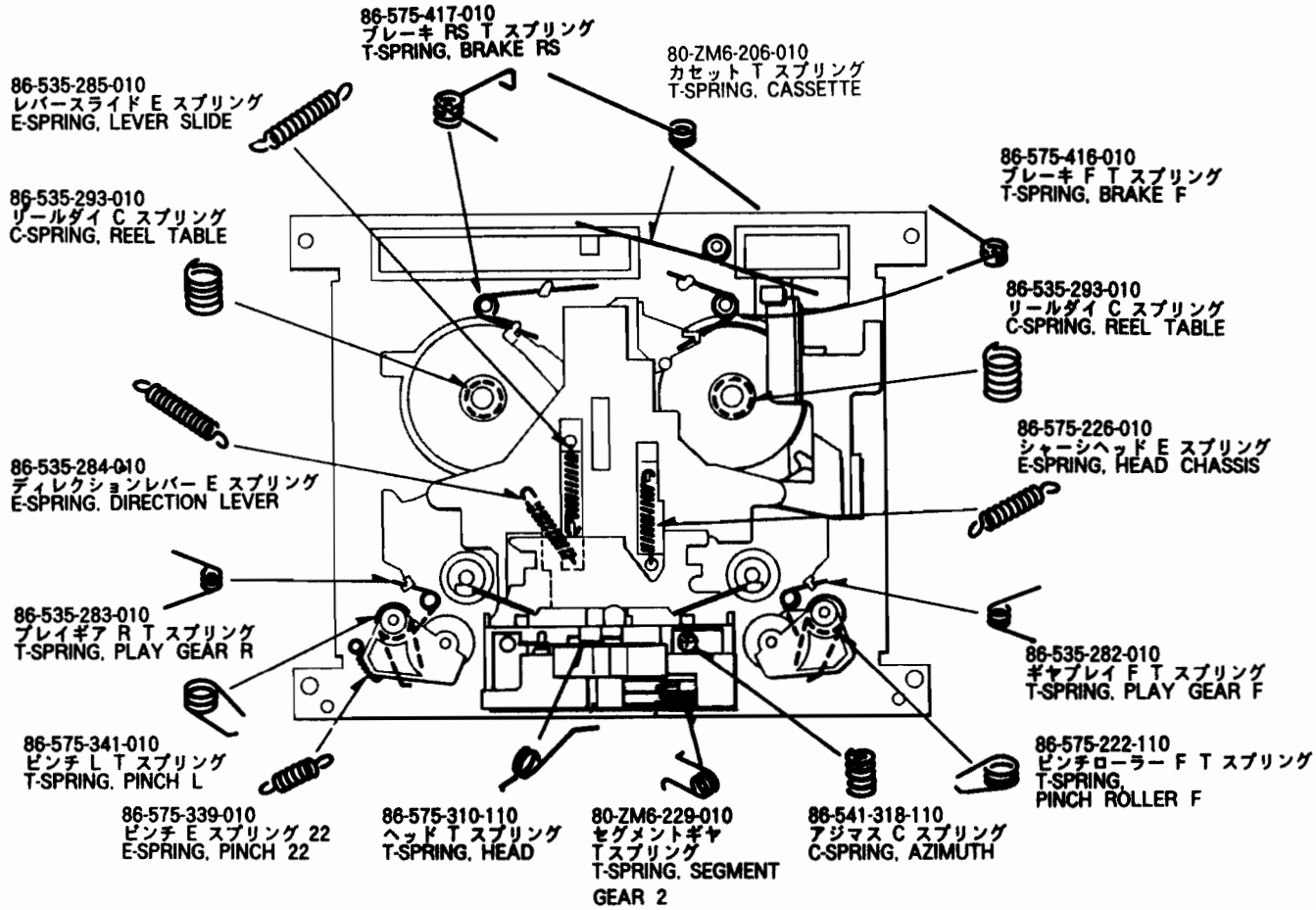
PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q T
	3-1	★86-535-291-210	T-SPRING, FR CAM		1
	3-2	★86-575-221-210	GEAR, PLAY	*	2
	3-3	★86-535-230-510	LEVER, FR TRIGGER		1
	3-4	★80-ZM6-220-010	T-SPRING, FR 2		1
	3-5	★80-ZM6-243-010	SHEET, 175-3.6-0.5		1
	3-6	★86-575-328-110	GEAR, IDLER	*	1
	3-7	★80-ZM6-217-010	RING, MAGUNET 2		1
	3-8	★80-ZM6-218-110	LEVER, FR 2		1
	3-9	★80-ZM6-222-110	SHAFT, PULLEY FR		1
	3-10	★80-ZM6-282-010	GEAR, FR 2		1
	3-11	80-ZM6-227-110	BELT, SQ 1.2-140		1
	3-12	★80-ZM6-205-110	T-SPRING, MAIN		1
	3-13	★86-535-231-510	LEVER, PLAY TRIGGER		1
	3-14	★86-575-373-010	FLYWHEEL ASSY R3	*	1
	3-15	★86-575-415-010	BELT, FLAT 0.55-217	*	2
	3-16	★86-575-375-010	FLYWHEEL ASSY L3	*	1
	3-17	★80-ZM6-242-010	SHEET, 1.95-3.6-0.5		1
	3-18	★86-575-406-010	PULLEY MOTOR RQ		1
	3-19	★86-575-301-410	HOLDER, MOTOR	*	1
	3-20	★86-513-441-210	COLLAR		2
	3-21	★86-575-312-210	CAM, MAIN	*	1
	3-22	★83-575-229-210	LEVER, PAUSE B	*	1
	3-23	★80-ZM6-219-210	CAM, FR MK2 2M		1

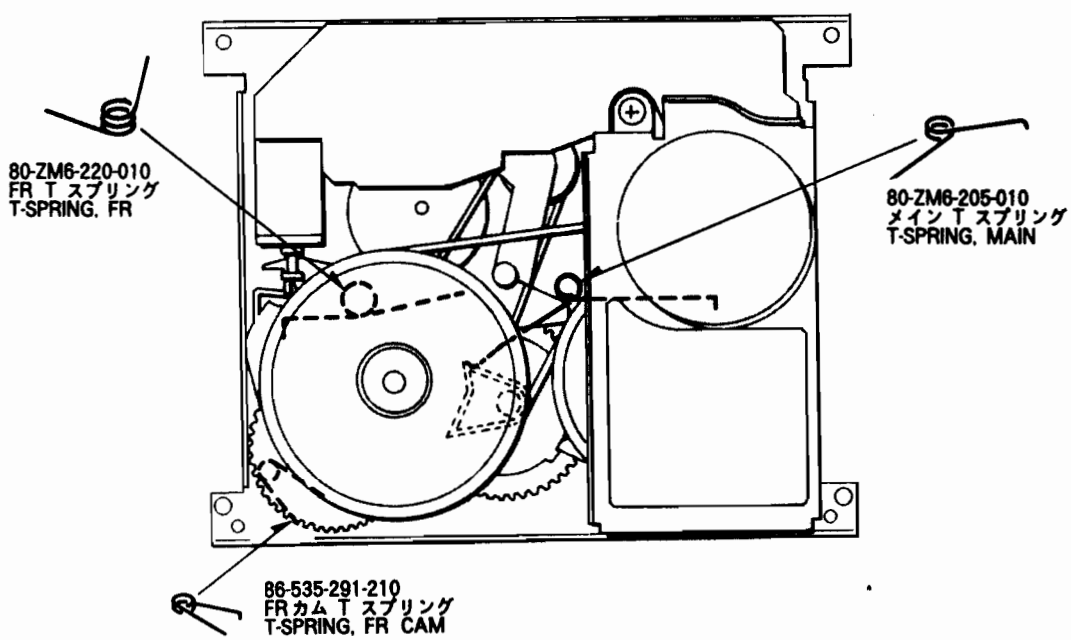
SPRING APPLICATION POSITION – 1 (AD – WX929)





SPRING APPLICATION POSITION – 2 (AD – WX828)





REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
ECM	ECM
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
ｻｰｼﾞｻﾌﾟﾚｯｻ	SERGESUPPRESSOR
ｾﾗｺﾝ	CAP, CERA

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BAT, CONTACT ASSY	BATTERY CONTACT ASSY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CHAS, FR	CHASSIS, FRONT
CHAS, MECHA	CHASSIS, MECHANISM
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
KNOB, VOL REV	KNOB, VOLUME REV
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTORL
PANEL, FR	PANEL, FRONT
PULLY, LOAD MO	PULLY, LOADING MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP, SCREW BAT	SPECIAL SCREW BATTERY
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
SW	SWITCH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ｼｬﾌﾄｱｰﾑ	ARM, SHAFT
ｼｬﾌﾄｶﾞｲﾄﾞ	GUIDE, SHAFT
ｽﾄﾗｯﾌﾟ	STRAP