

MDX-C5960R/C5970/C5970R

KEY

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA. . . : μ A. . . uPA. . . : μ PA. . .
uPB. . . : μ PB. . . uPC. . . : μ PC. . .
uPD. . . : μ PD. . .
- CAPACITORS
uF: μ F
- COILS
uH: μ H
- Abbreviation
GREEN : Illumination color
AMBER : Illumination color

When indicating parts by reference number, please include the board.

SONY

SERVICE MANUAL

German Model
MDX-C5960R
US Model
Canadian Model
E Model
MDX-C5970
AEP Model
UK Model
MDX-C5970R

SUPPLEMENT-1

File this supplement with the service manual.

Subject: Key board Modification

(ECN-CSB00612)

NEW/FORMER DISCRIMINATION

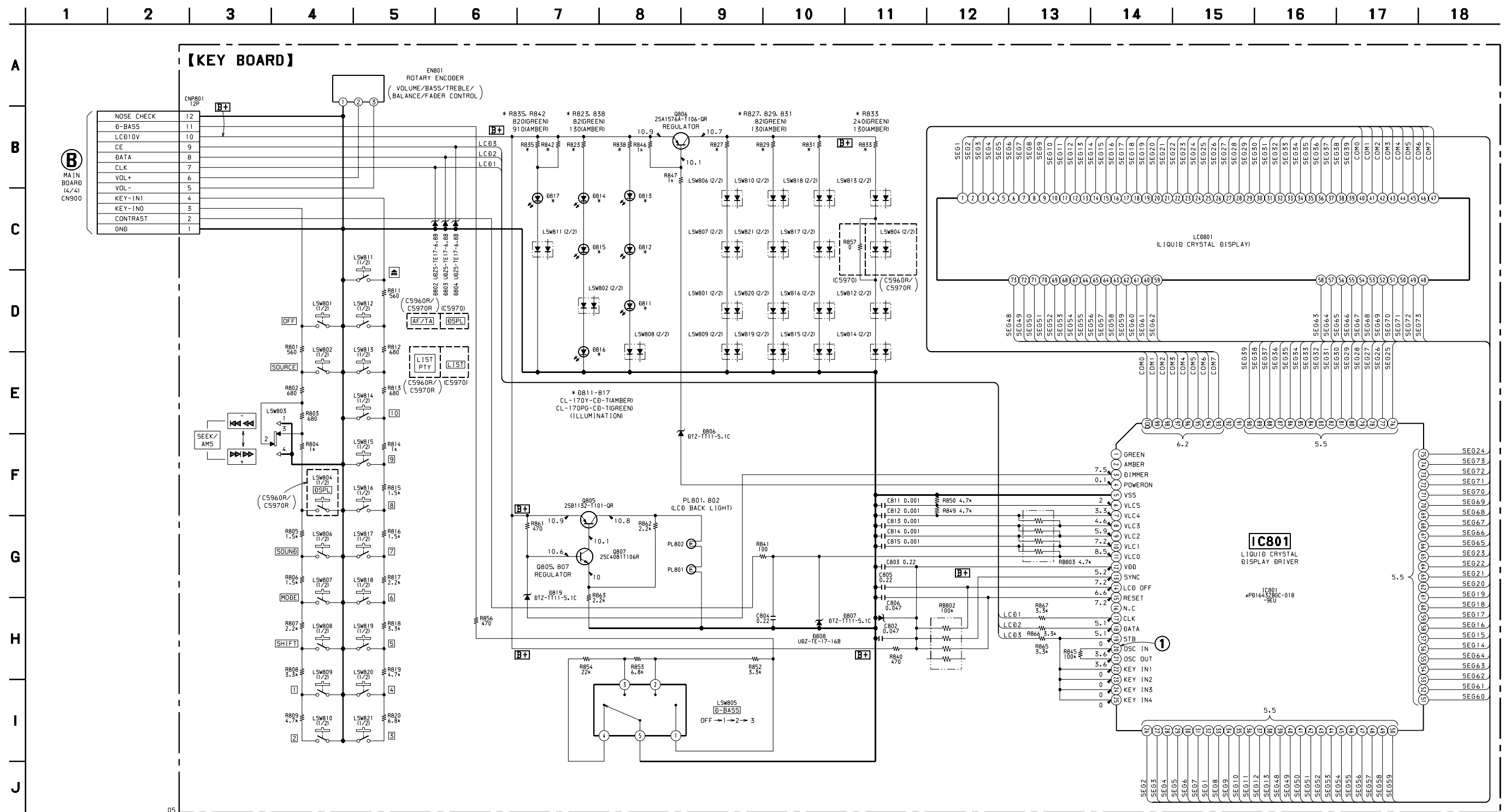
[KEY BOARD] – Component Side –



Former: 1-672-683-11
New : 1-674-668-11

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|--------------|---|--------|----------|--------------|--|--------|
| | | KEY BOARD ***** | | D814 | 8-719-033-13 | LED CL-170Y-CD-T (AMBER) (ILLUMINATION) | |
| * | 3-023-609-01 | PLATE (LCD), LIGHT GUIDE | | D814 | 8-719-033-14 | LED CL-170PG-CD-T (GREEN) (ILLUMINATION) | |
| * | 3-023-621-02 | SHEET (LCD) | | D815 | 8-719-033-13 | LED CL-170Y-CD-T (AMBER) (ILLUMINATION) | |
| * | 3-033-721-03 | SHEET (LCD), DIFFUSION (C5960R/C5970R) | | D815 | 8-719-033-14 | LED CL-170PG-CD-T (GREEN) (ILLUMINATION) | |
| * | 3-033-721-11 | SHEET (LCD), DIFFUSION (C5970) | | D816 | 8-719-033-13 | LED CL-170Y-CD-T (AMBER) (ILLUMINATION) | |
| * | 3-033-706-01 | PLATE (LCD), GROUND | | D816 | 8-719-033-14 | LED CL-170PG-CD-T (GREEN) (ILLUMINATION) | |
| * | 3-033-707-01 | HOLDER (LCD) | | D817 | 8-719-033-13 | LED CL-170Y-CD-T (AMBER) (ILLUMINATION) | |
| | | < CAPACITOR > | | D817 | 8-719-033-14 | LED CL-170PG-CD-T (GREEN) (ILLUMINATION) | |
| C802 | 1-163-809-11 | CERAMIC CHIP 0.047uF 10% 25V | | D819 | 8-719-977-00 | DIODE DTZ5.1C | |
| C803 | 1-164-489-11 | CERAMIC CHIP 0.22uF 10% 16V | | | | < ROTARY ENCODER > | |
| C804 | 1-164-489-11 | CERAMIC CHIP 0.22uF 10% 16V | | EN801 | 1-475-014-11 | ENCODER, ROTARY (VOLUME/BASS/TREBLE/ BALANCE/FADER CONTROL) | |
| C805 | 1-164-489-11 | CERAMIC CHIP 0.22uF 10% 16V | | | | < IC > | |
| C806 | 1-163-809-11 | CERAMIC CHIP 0.047uF 10% 25V | | IC801 | 8-759-496-75 | IC uPD16432BGC-018-9EU | |
| C811 | 1-163-009-11 | CERAMIC CHIP 0.001uF 10% 50V | | | | < LIQUID CRYSTAL DISPLAY > | |
| C812 | 1-163-009-11 | CERAMIC CHIP 0.001uF 10% 50V | | LCD801 | 1-803-502-21 | DISPLAY PANEL, LIQUID CRYSTAL | |
| C813 | 1-163-009-11 | CERAMIC CHIP 0.001uF 10% 50V | | | | < SWITCH > | |
| C814 | 1-163-009-11 | CERAMIC CHIP 0.001uF 10% 50V | | LSW801 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (OFF) | |
| C815 | 1-163-009-11 | CERAMIC CHIP 0.001uF 10% 50V | | LSW801 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (OFF) | |
| | | < CONNECTOR > | | LSW802 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (SOURCE) | |
| CNP801 | 1-764-423-11 | PIN, CONNECTOR 12P | | LSW802 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (SOURCE) | |
| | | < DIODE > | | LSW803 | 1-771-290-11 | SWITCH, SLIDE (- I◀◀◀, ▶▶▶ +: SEEK/AMS) | |
| D802 | 8-719-069-57 | DIODE UDZS-TE17-6.8B | | LSW804 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (DSPL) (C5960R/C5970R) | |
| D803 | 8-719-069-57 | DIODE UDZS-TE17-6.8B | | LSW804 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (DSPL) (C5970) | |
| D804 | 8-719-069-57 | DIODE UDZS-TE17-6.8B | | LSW805 | 1-762-937-11 | SWITCH, ROTARY (D-BASS) | |
| D806 | 8-719-977-00 | DIODE DTZ5.1C | | | | | |
| D807 | 8-719-977-00 | DIODE DTZ5.1C | | | | | |
| D808 | 8-719-978-69 | DIODE DTZ-TT11-16B | | | | | |
| D811 | 8-719-033-13 | LED CL-170Y-CD-T (AMBER) (ILLUMINATION) | | | | | |
| D811 | 8-719-033-14 | LED CL-170PG-CD-T (GREEN) (ILLUMINATION) | | | | | |
| D812 | 8-719-033-13 | LED CL-170Y-CD-T (AMBER) (ILLUMINATION) | | | | | |
| D812 | 8-719-033-14 | LED CL-170PG-CD-T (GREEN) (ILLUMINATION) | | | | | |
| D813 | 8-719-033-13 | LED CL-170Y-CD-T (AMBER) (ILLUMINATION) | | | | | |
| D813 | 8-719-033-14 | LED CL-170PG-CD-T (GREEN) (ILLUMINATION) | | | | | |

SCHEMATIC DIAGRAM – KEY Board –



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μpF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- [] : panel designation.
- [B+] : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions. no mark : FM
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Abbreviation
GREEN : Illumination color
AMBER : Illumination color

MDX-C5960R/C5970/C5970R

KEY

KEY

Continued from page 1.

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|--------------|---|--------|----------|--------------|---|--------|
| LSW806 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (SOUND) | | LSW821 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (3) | |
| LSW806 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (SOUND) | | | | < PILOT LAMP > | |
| LSW807 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (MODE) | | PL801 | 1-517-630-31 | LAMP, PILOT (LCD BACK LIGHT) | |
| LSW807 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (MODE) | | PL802 | 1-517-630-31 | LAMP, PILOT (LCD BACK LIGHT) | |
| LSW808 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (SHIFT) | | | | < TRANSISTOR > | |
| LSW808 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (SHIFT) | | Q805 | 8-729-106-60 | TRANSISTOR 2SB1115A-YQ | |
| LSW809 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (1) | | Q806 | 8-729-026-53 | TRANSISTOR 2SA1576A-T106-QR | |
| LSW809 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (1) | | Q807 | 8-729-905-35 | TRANSISTOR 2SC4081T106R | |
| | | | | | | < RESISTOR > | |
| LSW810 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (2) | | R801 | 1-208-776-11 | RES, CHIP 560 0.5% 1/10W | |
| LSW810 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (2) | | R802 | 1-216-647-11 | METAL CHIP 680 0.5% 1/10W | |
| LSW811 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (▲) | | R803 | 1-216-647-11 | METAL CHIP 680 0.5% 1/10W | |
| LSW811 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (▲) | | R804 | 1-216-651-11 | METAL CHIP 1K 0.5% 1/10W | |
| LSW812 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (AF/TA) (C5960R/C5970R) | | R805 | 1-216-655-11 | METAL CHIP 1.5K 0.5% 1/10W | |
| LSW812 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (AF/TA) (C5970R) | | R806 | 1-216-655-11 | METAL CHIP 1.5K 0.5% 1/10W | |
| LSW812 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (DSPL) (C5970) | | R807 | 1-216-659-11 | METAL CHIP 2.2K 0.5% 1/10W | |
| LSW813 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (LIST, PTY) (C5960R/C5970R) | | R808 | 1-216-663-11 | METAL CHIP 3.3K 0.5% 1/10W | |
| LSW813 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (LIST, PTY) (C5970R) | | R809 | 1-216-667-11 | METAL CHIP 4.7K 0.5% 1/10W | |
| LSW813 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (LIST) (C5970) | | R810 | 1-216-667-11 | RES, CHIP 4.7K 0.5% 1/10W | |
| LSW814 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (10) | | R811 | 1-208-776-11 | RES, CHIP 560 0.5% 1/10W | |
| LSW814 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (10) | | R812 | 1-216-647-11 | METAL CHIP 680 0.5% 1/10W | |
| LSW815 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (9) | | R813 | 1-216-647-11 | METAL CHIP 680 0.5% 1/10W | |
| LSW815 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (9) | | R814 | 1-216-651-11 | METAL CHIP 1K 0.5% 1/10W | |
| LSW816 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (8) | | R815 | 1-216-655-11 | METAL CHIP 1.5K 0.5% 1/10W | |
| LSW816 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (8) | | R816 | 1-216-655-11 | METAL CHIP 1.5K 0.5% 1/10W | |
| LSW817 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (7) | | R817 | 1-216-659-11 | RES, CHIP 2.2K 0.5% 1/10W | |
| LSW817 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (7) | | R818 | 1-216-663-11 | RES, CHIP 3.3K 0.5% 1/10W | |
| LSW818 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (6) | | R819 | 1-216-667-11 | RES, CHIP 4.7K 0.5% 1/10W | |
| LSW818 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (6) | | R820 | 1-216-671-11 | RES, CHIP 6.8K 0.5% 1/10W | |
| LSW819 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (5) | | R821 | 1-216-023-00 | RES, CHIP 82 5% 1/10W (GREEN) | |
| LSW819 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (5) | | R822 | 1-216-028-00 | METAL CHIP 130 5% 1/10W (AMBER) | |
| LSW820 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (4) | | R823 | 1-216-023-00 | RES, CHIP 82 5% 1/10W (GREEN) | |
| LSW820 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (GREEN) (4) | | R824 | 1-216-028-00 | METAL CHIP 130 5% 1/10W (AMBER) | |
| LSW821 | 1-762-617-21 | SWITCH, KEY BOARD (WITH LED) (AMBER) (3) | | R825 | 1-216-023-00 | RES, CHIP 82 5% 1/10W (GREEN) | |
| | | | | R826 | 1-216-028-00 | METAL CHIP 130 5% 1/10W (AMBER) | |
| | | | | R827 | 1-216-023-00 | RES, CHIP 82 5% 1/10W (GREEN) | |
| | | | | R828 | 1-216-028-00 | METAL CHIP 130 5% 1/10W (AMBER) | |
| | | | | R829 | 1-216-023-00 | RES, CHIP 82 5% 1/10W (GREEN) | |
| | | | | R830 | 1-216-028-00 | METAL CHIP 130 5% 1/10W (AMBER) | |
| | | | | R831 | 1-216-023-00 | RES, CHIP 82 5% 1/10W (GREEN) | |
| | | | | R832 | 1-216-028-00 | METAL CHIP 130 5% 1/10W (AMBER) | |
| | | | | R833 | 1-216-023-00 | RES, CHIP 82 5% 1/10W (GREEN) | |
| | | | | R834 | 1-216-028-00 | METAL CHIP 130 5% 1/10W (AMBER) | |
| | | | | R835 | 1-216-047-00 | RES, CHIP 820 5% 1/10W (GREEN) | |
| | | | | R836 | 1-216-048-00 | METAL CHIP 910 5% 1/10W (AMBER) | |
| | | | | R837 | 1-216-023-00 | RES, CHIP 82 5% 1/10W (GREEN) | |
| | | | | R838 | 1-216-028-00 | METAL CHIP 130 5% 1/10W (AMBER) | |
| | | | | R839 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| | | | | R840 | 1-216-025-00 | RES, CHIP 100 5% 1/10W | |

| Ref. No. | Part No. | Description | Remark |
|----------|--------------|-------------------------------|---------------|
| R842 | 1-216-047-00 | RES, CHIP 820 5% | 1/10W (GREEN) |
| R842 | 1-216-048-00 | METAL CHIP 910 5% | 1/10W (AMBER) |
| R845 | 1-218-895-11 | METAL CHIP 100K 0.5% | 1/16W |
| R846 | 1-216-651-11 | METAL CHIP 1K 0.5% | 1/10W |
| R847 | 1-216-651-11 | METAL CHIP 1K 0.5% | 1/10W |
| R849 | 1-216-667-11 | METAL CHIP 4.7K 0.5% | 1/10W |
| R850 | 1-216-667-11 | METAL CHIP 4.7K 0.5% | 1/10W |
| R852 | 1-216-061-00 | METAL CHIP 3.3K 5% | 1/10W |
| R853 | 1-216-069-00 | METAL CHIP 6.8K 5% | 1/10W |
| R854 | 1-216-081-00 | METAL CHIP 22K 5% | 1/10W |
| R856 | 1-216-041-00 | METAL CHIP 470 5% | 1/10W |
| R857 | 1-216-295-00 | SHORT 0 (GREEN) | |
| R861 | 1-216-041-00 | METAL CHIP 470 5% | 1/10W |
| R862 | 1-216-659-11 | METAL CHIP 2.2K 0.5% | 1/10W |
| R863 | 1-216-659-11 | METAL CHIP 2.2K 0.5% | 1/10W |
| R865 | 1-216-061-00 | METAL CHIP 3.3K 5% | 1/10W |
| R866 | 1-216-061-00 | METAL CHIP 3.3K 5% | 1/10W |
| R867 | 1-216-061-00 | METAL CHIP 3.3K 5% | 1/10W |
| | | < COMPOSITION CIRCUIT BLOCK > | |
| RB802 | 1-233-810-21 | RES, NETWORK 100K (3216) | |
| RB803 | 1-233-414-11 | RES, CHIP NETWORK 4.7K (3216) | |

EXPLODED VIEWS

| Page | FORMER | NEW | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|--|---|----------|-------------|--------|------|--------------|------------------------|--|---|----------|----------|-------------|--------|------|--------------|---|--|------|--------------|--------------------------------|--|------|--------------|-------------|--|
| 73 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Ref. No.</th> <th>Part No.</th> <th>Description</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>* 63</td> <td>3-033-696-01</td> <td>SHEET (LCD), DIFFUSION</td> <td></td> </tr> </tbody> </table> | Ref. No. | Part No. | Description | Remark | * 63 | 3-033-696-01 | SHEET (LCD), DIFFUSION | | <table border="1"> <thead> <tr> <th>Ref. No.</th> <th>Part No.</th> <th>Description</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>* 63</td> <td>3-033-721-03</td> <td>SHEET, DIFFUSION (LCD) (C5960R/C5970R)</td> <td></td> </tr> <tr> <td>* 63</td> <td>3-033-721-11</td> <td>SHEET, DIFFUSION (LCD) (C5970)</td> <td></td> </tr> <tr> <td>* 72</td> <td>3-037-916-01</td> <td>SHEET (LCD)</td> <td></td> </tr> </tbody> </table> | Ref. No. | Part No. | Description | Remark | * 63 | 3-033-721-03 | SHEET, DIFFUSION (LCD) (C5960R/C5970R) | | * 63 | 3-033-721-11 | SHEET, DIFFUSION (LCD) (C5970) | | * 72 | 3-037-916-01 | SHEET (LCD) | |
| Ref. No. | Part No. | Description | Remark | | | | | | | | | | | | | | | | | | | | | | | |
| * 63 | 3-033-696-01 | SHEET (LCD), DIFFUSION | | | | | | | | | | | | | | | | | | | | | | | | |
| Ref. No. | Part No. | Description | Remark | | | | | | | | | | | | | | | | | | | | | | | |
| * 63 | 3-033-721-03 | SHEET, DIFFUSION (LCD) (C5960R/C5970R) | | | | | | | | | | | | | | | | | | | | | | | | |
| * 63 | 3-033-721-11 | SHEET, DIFFUSION (LCD) (C5970) | | | | | | | | | | | | | | | | | | | | | | | | |
| * 72 | 3-037-916-01 | SHEET (LCD) | | | | | | | | | | | | | | | | | | | | | | | | |

• Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.