(6-1) POWER SUPPLY CIRCUIT

Notes:
1. S1: Power switch in "on" position.
2. S2: Voltage selector switch in "110V" position.
3. Important safety notice.
   Components identified by △ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

PR

SSDP100N90

PS

SSDP100N10(a)

SSDP100N10(b)

SSDP100N10(c)

IC103 SVI-PC78M15H
IC102 SVI-PC7235H
IC104 SVI-PC7812H
IC106 SVI-PC78M15H
IC105 SVI-PC7805H
IC107 SVI-PC7812H
IC1701 SVITA78L015A
IC1702 SVI-PC7818H

Q1701 2SD856
Q1702 2SD856
Q1703 2SB643
Q1704 2SD639
Q101 2SD782
Q102 2SD636
Q103 2SD638
Q104 2SD636
Q105 2SB643
Q106 2SD641
Q107 2SB643
Q108 2SD636
Q109 2SB643
Q110 2SD636
Q111 2SB643
Q112 2SD636

D101 SVDS1W810
D102 SVDS1W810
D103 SVDS4V820
D104 SVDS4V820
D105 MA150
D106 MA150
D107 MA150
D108 MA150
D109 MA1056
D110 MA150
D111 MA1056
D112 MA150
D1701 MA150
D1702 MA150
D1703 MA150

T1 △
T101 △
F1 T1A
F101 T0.5A
S1 POWER SW
S2 VOLTAGE SELECTOR
AC 110/120/220/240V (50/60Hz)

Ground

Voltage Selector

Playback: (4.6V)
Recording Play (4.6V)
Recording (4.6V)

Mute Circuit

AN6552

5V ADJ
M 5V ADJ

VJBG0521
VJ8000518 MECHA MODE SW
VSB00519
SSDP100N84(CM)

CM

(6-2) OPERATION CONTROL CIRCUIT

SSDP100N20(OP)

OP

Sensor circuit

Operation control

Search recording (Just for 70sec : 5V)

Recording (0V)

Cue operation (5V)

Playback (5V)

Recording (5V)

Solenoid drive circuit

SOL PULL

PI ON

PL ON

FF ON

Motor drive circuit

LED driver

40 Hz OSC

Cylinder servo circuit

HSW A

V SYNC TIMING

CTL WIDTH

HSW B

CYL LOCK

Recording: (7.5V) Playback, Stop (0V)

CTL detector

Playback, Stop (2.5V) Recording (8V)

Stop (0.4V)

Stop (2.5V)

Stop (0.6V)

Stop (0V)

Stop (3V)

Stop: (12V)

Cylinder drive circuit

IC165 (AN6350)

IC166 (AN6677)

(Playback) 33ms 9V 6V 3.5V

(Recording) 33ms 5V 0V

(Stop): 0V

0.7V 0V -2V

(Recording) 33ms 10V 8ms 1V

(Playback, Stop): 1.5V

8ms 3V 0V

(Stop): 0V

8ms 6V 0V

(Stop): 0V

8ms 4V 0V

(Stop): 9.5V

4ms 5V 1.8V

(Stop): 1.8V

33ms 6V 0V

(Stop): 0V

33ms 10V 0V

(Stop): 0V

(Playback, Recording) 33ms 12V 0V

12V 0V

6Vp-p 0V 1.5V 33ms

(Stop): 0V

6Vp-p 14V 33ms

(Stop): 12V

4ms 5V 2V

(Stop): 2V

4ms 4.7V 0V

(Stop): 0V

4ms 21V 3V

0° 120° 240°

(Stop): 12V

(2V/cm, 5ms/DIV)

(1V/cm, 1μs/DIV)

(6-3) VIDEO CIRCUIT

VD Video recording circuit

(Indicate voltage is recording operation)

Playback carrier amplifier circuit

(Indicate voltage is playback operation)

Video decoder

Dropout muting

Digital indicator drive

Slice voltage generator

Capstan servo

Capstan motor drive

Synchro data separator

Porch clump

VH Video head amplifier circuit

VC Muting timing

Note:
Important safety notice.
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Recording video signal
Playback video signal

(6-4) DIGITAL CIRCUIT

SSOP100N40 (DG)

DG

Sample hold circuit

IC651 SV1TL081CP
IC652 SV1TL082CP
IC653 SVI-P04066C
IC650 SV1TL081CP

Rch/Lch switch circuit

Sampling frequency
12Vp-p
22.7μs
RL SEL (Rch/Lch selector)

A/D converter circuit

IC654 SV1TL081CP
IC655 EHKMA6193
A-D CONV
Rch 4kHz input (0.5V/DIV, 50μs)
Lch
Sampling frequency Q651 collector (10V/DIV, 50μs)
RL SEL
4V
22.7μs
AD start point

1kHz playback signal
5V/DIV 0.1ms)

I/V Converter circuit

IC663 SVI-P04066C
IC661 SV1TL082CP
IC662 SVIM74LS74P
Rch (input −15dB)
Lch (input ∞)
Deglitch circuit

D/A converter circuit

IC660 EHKMD6192
D-A CONV
IC659 AN6860
IC656 SVIM74LS174P

Rch input (−15dB)
Lch input (∞)
Q651
Rch (14 bit)
Lch
TP654 (write enable) recording (2V/DIV, 20μs)

Digita mute control circuit

IC688 SVIM74LS74P

Connection of P.C.B.

62μs
Composit synchro
5V
0
(2V/DIV 20μs) playback data
2.64MHz
(2V/DIV 5ms)
60Hz
Recording data (2V/DIV 20μs)
White reference

Playback LSI

IC658 MN6602

1	VSS	DASYNC	64
2	RLSEL	TOUT	63
3	DOUT	ADCK	62
4	DACK	VSYNC	61
5	SHCK	CSYNC	60
6	ENPHA	PRDATA	59
7	CK	NTSC/PAL	58
8	BUSY	PBMCK	57
9	CNT DATA	TESTCK	56
10	D1	LAD	55
11	D2	PBCRCK	54
12	D3	CNTCRCR	53
13	D4	DCRCR	52
14	D5	WE	51
15	D6	A0	50
16	D7	A1	49
17	D8	A2	48
18	D9	A3	47
19	D10	A4	46
20	D11	A5	45
21	D12	A6	44
22	D13	A7	43
23	D14	A8	42
24	TO4	A9	41
25	TO3	A10	40
26	TO2	RST	39
27	TO1	DADRSET	38
28	DADOUT	RADRSET	37
29	MUTEN	TIN	36
30	MUT	TCONT1	35
31	TCONT4	TCONT2	34
32	TCONT3	VDD	33

Data / Address

IC657 ㊱ pin RL SEL
4V
0
5V
0V
22.7μs

Recording LSI

IC657

1	VSS	PLLDIV	64
2	2V SYNC	CSYNC	63
3	RTCK	A0	62
4	WE	A1	61
5	MAS/SLAV	A2	60
6	MCK	A3	59
7	INT/AUTO	A4	58
8	PLLMCK	A5	57
9	NTSC/PAL	A6	56
10	TST CK	A7	55
11	OSC IN	A8	54
12	OSC OUT	A9	53
13	VSS	EDATA	52
14	ADCK	TSCNT1	51
15	ADPLL	TSCNT2	50
16	R1	TSCNT3	49
17	V1	TSCNT4	48
18	DADIN	RDATA	47
19	DIN	BUSY	46
20	MD814	CK	45
21	MD813	DATA	44
22	MD812	LAD	43
23	MD811	PB CHCK	42
24	MD810	DYDAO	41
25	MD89	R/PB OUT	40
26	MD88	ADDC SYNC	39
27	MD87	WREF	38
28	MD86	FED	37
29	MD85	RL SEL	36
30	MD84	ADSYNC	35
31	MDB3	MDB1	34
32	MDB2	VDD	33

IC651 MN6601 Address / Data
15.86MHz
1.76MHz

Playback memory circuit

IC669 SVIM5L 2114LP D2
IC670 SVIM5L 2114LP D1
IC671 SVIM5L 2114LP C2
IC672 SVIM5L 2114LP C1
IC673 SVIM5L 2114LP B2
IC674 SVIM5L 2114LP B1
IC675 SVIM5L 2114LP A2
IC676 SVIM5L 2114LP A1
IC679, IC680, IC681 SVIM74LS04P

TP658 (write enable) playback (2V/DIV, 20μs)

Recording memory circuit

IC665 MN2114-4S
IC666 MN2114-4S
IC667 MN2114-4S
IC668 MN2114-4S
IC677, IC678 SVIM74LS04P

Self check circuit

IC687 SVIM74LS123P
IC686 SVIM74LS00P
Composit Synchro

Video mixing circuit

IC684 SVIM53206P

Master clock mixing circuit

IC688 SVIM74LS00P
IC683 SVIM74LS04P
Clock SW
NORM 5V
INT, EXT 0V
MCK
MAS

Master clock filter circuit

IC685 SVILM 360N
MCK SLAVE

TP657

Rec Data (0.5V/DIV 10μs)
Composit sync.

Note:
Important safety notice.
Components identified by ⚠mark have special characteristics important for saf
When replacing any of these componen use only manufacturer's specified parts.

Recording signal
Playback signal

(6-5) AUDIO CIRCUIT

Fader
Analog circuit
Headphone amplifier circuit SSDP100N50(AU)
Display logic amplifier circuit
Audio track recording circuit
Shock absorber circuit
Bias circuit
Edit logic circuit
Edit detector circuit
Audio head amplifier
Cue/review playback circuit

Input signal (30mV 1kHz)
Playback 11.9V
Rec 5V
Audio (−14.4V) Digital (0V)
Mute Vcc
Jump 0.7V, Normal 0V
Search 0.7V, Normal 0V
* Refer number of IC
Exlample 08 ----→ IC808
Jump playback
Search playback
Playback or rec operation (5V)
Playback, rec operation or cue (5V)
Cue operation (5V)
Rec operation (5V)
Search recording (5V)
At recording (5V)
Jump (5V)
Search (5V)
Edit normal, jump on (5V)
Edit normal, clear on (5V)
Edit switch off (5V)
Control pulse
Recording: 0V
Playback (Edit switch: normal, Edit lever: on): 0V
Normal 0V Jump 5.7V
Normal 0V Jump 4.6V
Normal 0V Search 4.6V
Normal 0V Search 5.7V
Jump 0V Clear 0V
Search (0V) Clear (0V)
Reset pulse
Recording (0.7V)
Voltage is cue operation

• Recording mode edit switch normal
33ms 12ms 0.7 20ms 1.6 Input signal 44kHz 32Vp-p Search mark

IC816 ① pin (Jump)
IC816 ④ pin (RST)
IC816 ⑬ pin (Search)
IC814 ⑦ pin
IC814 ① pin
IC813 ⑦ pin (Search mark)
TP807 (CTL) 5V 0V 8ms 23ms

Recording signal
Playback signal
Audio head playback signal
Audio head recording signal

Note:
Important safety notice.
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

(6-6) INPUT/ OUTPUT CIRCUIT

IN

Mic amplifier

MC

Emphasis circuit

VE

SW

DP

Display tape counter drive

Display level meter drive

CF

KY

LCD tape counter

LCD (Liquid Crystal Display) level meter

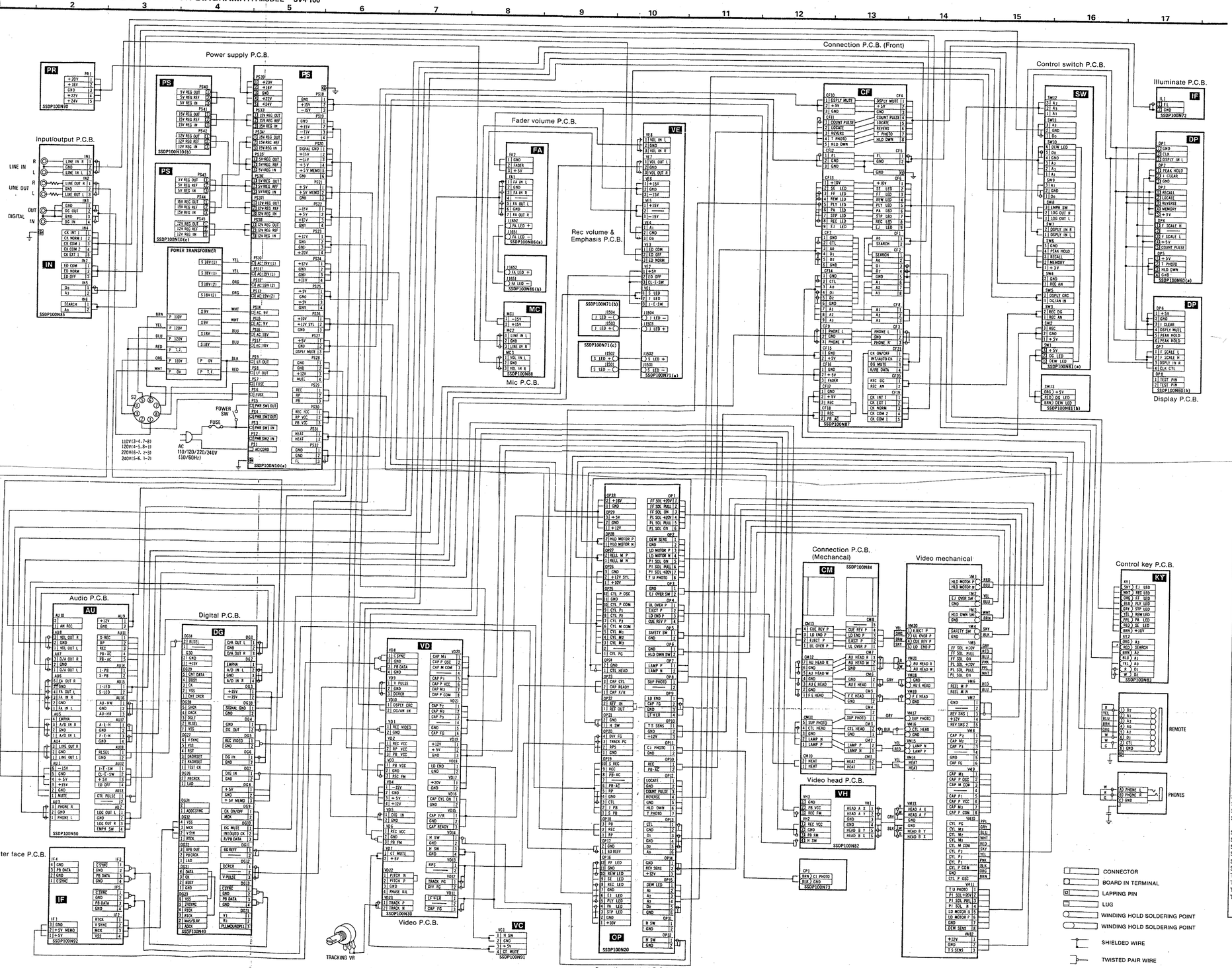
• Fader OFF
• Clock normal

Pin	Analog Rec	Analog Play
1	5.2V	5.2V
2	4.9V	5.2V
3	5.0V	0V
4	5.2V	0V

Notes :

1. **S1501** : Jamp mark switch in "**off**" position.
2. **S1502** : Clear switch in "**off**" position.
3. **S1503** : Search mark in "**off**" position.
4. **S1541** : Input selector switch in "**line/mic**" position line/mic ⟷ digital
5. **S1542** : Locate switch in "**off**" position. off ⟷ memory
6. **S1543** : Recall switch in "**off**" position.
7. **S1544** : Level indicator selector switch in "**audio**" position, audio ⟷ digital
8. **S1545** : Playback data check switch in "**level**" position. level ⟷ data check
9. **S1545** : Timer recording switch in "**off**" position.
10. **S1601** : Fast-forward switch.
11. **S1602** : Cassette holder open/close switch.
12. **S1603** : Rewind switch.
13. **S1604** : Pause switch.
14. **S1605** : Play switch.
15. **S1606** : Stop switch.
16. **S1607** : Recording switch.
17. **S1608** : Search switch.
18. **S1631** : Clock switch in "**normal**" position. internal ⟷ normal ⟷ external
19. **S1632** : Edit switch in "**normal**" position. normal ⟷ off
20. **S1633** : Timer recording switch in "**normal**" position. normal ⟷ 1 hour delay

■ PRINTED CIRCUIT BOARD WIRING CONNECTION DIAGRAM..... MODEL SV-P100



■ DESCRIPTION OF EACH TERMINAL

Mark	Description
A0	Key Board Sensor
A1	Key Board Sensor
A2	Key Board Sensor
A3	Key Board Sensor
AC	Audio Track Casting (Cue or Review)
A/D	Analog to Digital
AD CK	Clock for Analog to Digital
A - E - H	Audio Erase Head
AE HEAD	Audio Erase Head
AN–REC Vcc	Analog Recording Vcc
AU	Audio
AU - HR	Audio Head (Red lead wire side)
AU - HW	Audio Head (White lead wire side)
CAP CYL ON	Capstan Cylinder On (Motor to Rotate)
CAP CYL–RDY	Capstan Cylinder Ready
CAP FG	Capstan Frequency Generator
CAP F/R	Capstan Motor Forward/Reverse
CAP RDY	Capstan Ready
CI PHOTO	Cassette In Photo
CK	Clock Frequency
CLK	Clock Frequency
CK ON/OFF	Clock On/Off
CL - E - SW	Clear Switch by Edit Position to Normal
CL SW	Clear Switch
COM	Co mon
COUNT PLS	Count Pulse
C - PULSE	Count Pulse
CRC	Cyclic Redundancy Check
CS	Chip Selector
C SYNC	Composite Synchronizing
CTL	Control Signal
CTL HEAD	Control Head
D0	Scan Signal
D1	Scan Signal
D2	Scan Signal
D/A	Digital to Analog
DACK	Clock for Digital to Analog
DAD OUT	Output of Digital to Analog Data
D CRCR	Data CRC
DEW LED	Dew Light Emitting Diode
DEW SENS	Dew Sensor
D FG	Divided FG
DIV FG	Divided FG
DGLT	Digitch
DG MUTE	Digital Mute
DG OUT	Output of Digital Signal
DIGIN–1	Digital Input (No. 1)
DIGIN–0	Digital Input (No. 0)
DISPLAY CRC	Display Cyclic Redundancy Check
DISPLAY INR	Display Input of Right Channel
DISPLAY MUTE	Display Mute

Mark	Description
D SYNC	Data Synchronizing
ED - OFF	Edit Switch to Off
EJ F/R	Eject Motor Forward/Reverse
EJ OVER	Eject Over
EJ POSI	Eject Position
EMPHA	Emphasis Control Signal
EMPH SW	Emphasis Switch
F - E - H	Full Erase Head
FE HEAD	Full Erase Head
FF SOL	Fast Forward Solenoid
FL	Fluorescent Tube
FSH	Full Scale High
FSL	Full Scale Low
HLD	Holder
HLD DWN	Holder Down
HLD MOTOR N	Holder Motor (Negative)
HLD MOTOR P	Holder Motor (Positive)
HS MUTE	Head Switch Mute
H S W	Head Switching
H SYNC	Horizontal Synchronizing
I CLEAR	Initialize Clear
INPUT SEL	Input Selector
INT/AUTO CK	Internal/External Auto Selector (MCK)
J - E - SW	Jump Mark Recording Switch by Edit Position to Normal
J LED	Jump Light Emitting Diode
J PB	Jump Playback
J SW	Jump Mark Recording Switch
LAMP N	Lamp Negative
LAMP P	Lamp Positive
LCH IN	Left Channel Input
LD END	Loading End Signal
L DIGAL	Left Channel Digital
LD - M - N	Loading Motor (Negative)
LD - M - P	Loading Motor (Positive)
LD OVER	Loading Over
LD ON/OFF	Loading Motor On/Off
LF	Loading Forward
LOG OUT	Logarithm Output
LOCATE	Locate
LR	Loading Reverse
LSB	Least Significant Bit
MCK	Master Clock
MSB	Most Significant Bit
MUTEN	Muting
P	P arity Signal
PAM	Pulse Amplitude Modulation
PB - AC	Playback Mode, Not Audio Track Casting (Normal Speed)
PB - AC	Audio Track Casting (Cue)
PB DATA	Playback Data

Mark	Description
PB FM	Playback of FM Signal
PCM	Pulse Code Modulation
PEAK H	Peak Hold
PED	Pedestal
PI SOL	Pinch Solenoid
PITCH CNT	Pitch Control
PL SOL	Play Solenoid
PS	Power Supply
Q	Q Parity Signal
RAM	Reac and Write (Random Access) Memory
RCH IN	Right Channel Input
R DATA	Recording Date
R DIGL	Rch Digitrch
RECALL	Recall
REC AN	Recording by Input Selector Switch to Analog
REC DG	Recording by Digital
REC FM	Recording of FM Signal
REC VIDEO	Recording of Video Signal
REEL MN	Reel Motor (Negative)
REEL MP	Reel Motor (Positive)
REFF	Reference Frequency
REV SENS	Reverse Sensor
RL MOTOR N	Reel Motor (Netative)
RL MOTOR P	Reel Motor (Positive)
RL ON/OFF	Reel Motor On/Off
RL SEL	Right Channel/Left Channel Selector
ROM	Read Only Memory
RP	Recording Play
R/PB DATA	Recording/Playback Data Sensor
RP HA	Recording Play Head
RPS	Recording Play Start
RTCK	Rec Transformer Clock
SAFETY TAB	Safety Tablet
SAR	Successive Approximation Register
SE–FWD	Search Forward
SER OUT	Series Data Output
SE–RWD	Search Rewind
S LED	Search Light Emitting Diode
SOL PULL	Solenoid Pull
S–REC	Search Recording
S PB	Search Playback
S–PH	Supply Photo
SUP–PHOTO	Supply Photo
S SW	Search Mark Recording Switch
SYNC	Synchronizing
T–PH	Tape Up Photo Sensor
TRACKING PG	Tracking Puluse Generator
TS SENSE	Tape Slack Sense
TST	Test

Mark	Description
UL	Un Loading
UL OVER	Un Loading Over
VOL IN	Volume Input
V PULSE	Vertical Pulse
WE	Write Enable
W REF	White Level Reference Signal
60 Hz REFF	Reference Frequency (60 Hz)

Note:

The one with a bar above the alphabet represents that the operation is not included.

Example:

C SYNC ..... Composite Synchronizing Signal
C SYNC ..... Opposit Signal of Composite Synchronizing