

OUTLINE OF SYSTEM

KIC9320F-001 is a C-MOS LSI designed for a FM/MW/LW radio of a PLL frequency synthesizer system corresponded to the requirement of the whole world.

This digital tuning system is optimum for such car audio equipment as three band radio with detachable panel.

- PLL + controller : KIC9320F-001(QFP-80PIN)
- LCD driver can control condition of key. : KIC9297F(QFP-60PIN)
- electronic volume : KIC9210P or KIC9211P

RECEIVING BAND

AREA			BAND	RECEIVING FREQ. (Hz)	STEP (Hz)	Fref (Hz)	IF (Hz)	
A2	A1	A0						
0	0	0	EUROPE	FM	87.5 ~ 108.0 M	50 k	50 k	+ 10.7 M
				MW	522 ~ 1620 k	9 k	9 k	450 / 459 k
0	0	1	EAST EUROPE	FM	65.0 ~ 74.0 M 87.5 ~ 108.0 M	50 k	50 k	+ 10.7 M
				MW	522 ~ 1620 k	9 k	9 k	450 / 459 k
0	1	0	USA 1	FM	87.5 ~ 107.9 M	200 k	50 k	+ 10.7 M
				MW	520 ~ 1720 k	10 k	10 k	+ 450 k
0	1	0	USA 2	FM	87.5 ~ 108.0 M	100 k	50 k	+ 10.7 M
				MW	520 ~ 1720 k	10 k	10 k	+ 450 k
1	0	0	LATIN AMERICA	FM	87.5 ~ 108.0 M	100 k	50 k	+ 10.7 M
				MW	530 ~ 1710 k	10 k	10 k	+ 450 k
1	0	1	AUSTRALIA/ MIDDLE AND NEAR EAST	FM	87.5 ~ 108.0 M	100 k	50 k	+ 10.7 M
				MW	531 ~ 1602 k	9 k	9 k	+ 450 k
1	1	0	JAPAN	FM	76.0 ~ 90.0 M	100 k	50 k	- 10.7 M
				MW	522 ~ 1629 k	9 k	9 k	+ 450 k
1	1	1	SOUTH AFRICA	FM	87.50 ~ 108.0 M	50 k	50 k	- 10.7 M
				MW	531 ~ 1602 k	9 k	9 k	+ 450 k

CODE		BAND	RECEIVING FREQ (Hz)	STEP (Hz)	Fref (Hz)	IF (Hz)
LW1	LW0					
0	0	LW DISABLE	—————			
0	1	LW ENABLE	153 k ~ 279 k	1k	1k	+450k / +459k
1	0		144 k ~ 288 k			
1	1		146 k ~ 290 k			

OUTLINE OF FUNCTION

- (1) TUNING FUNCTION
 - MANUAL TUNING (UP/DOWN)
 - SEEK TUNING (UP/DOWN)
 - SCAN TUNING (UP/DOWN)
 - AUTO MEMORY TUNING
 - PRESET MEMORY SCAN

- (2) MEMORY FUNCTION
 - FM1/FM2/FM3 : MAX 18 STATIONS
 - MW1/MW2 : MAX 12 STATIONS
 - LW : 6 STATIONS
 - VF : 6 STATIONS
 - maximum 42 stations in total.
 - each band has a last memory.

- (3) RADIO FUNCTION
 - VF band (VF AUTO TUNING and DK STAND BY)
 - LOC/DX control (AUTO LOCAL FUNCTION select possible)
 - STEREO DISPLAY and MONO/STEREO select
 - RADIO MONITOR FUNCTION

- (4) TAPE FUNCTION
 - "TAPE" DISPLAY
 - METAL/NORMAL select
 - APS ON/OFF control
 - DNR ON/OFF and B/C select

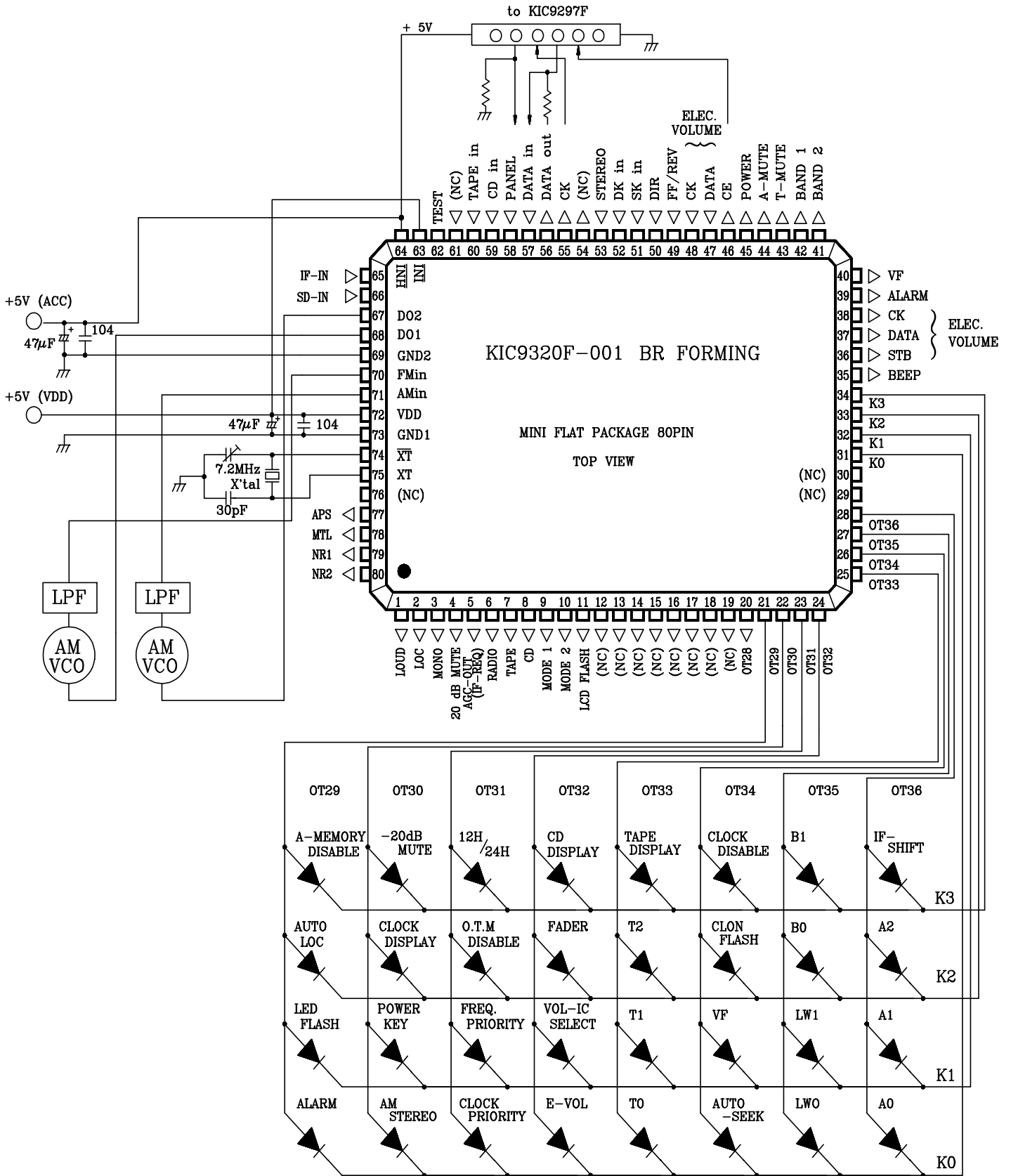
 - TAPE RUNNING DISPLAY (|> / <| and [])

- (5) ELECTRONIC VOLUME / INPUT SELECT FUNCTION
 - VOLUME / BASS / TREBLE / BALANCE / FADER
 - LOUDNESS CONTROL
 - RADIO / TAPE / CD INPUT
 - MUTE FUNCTION

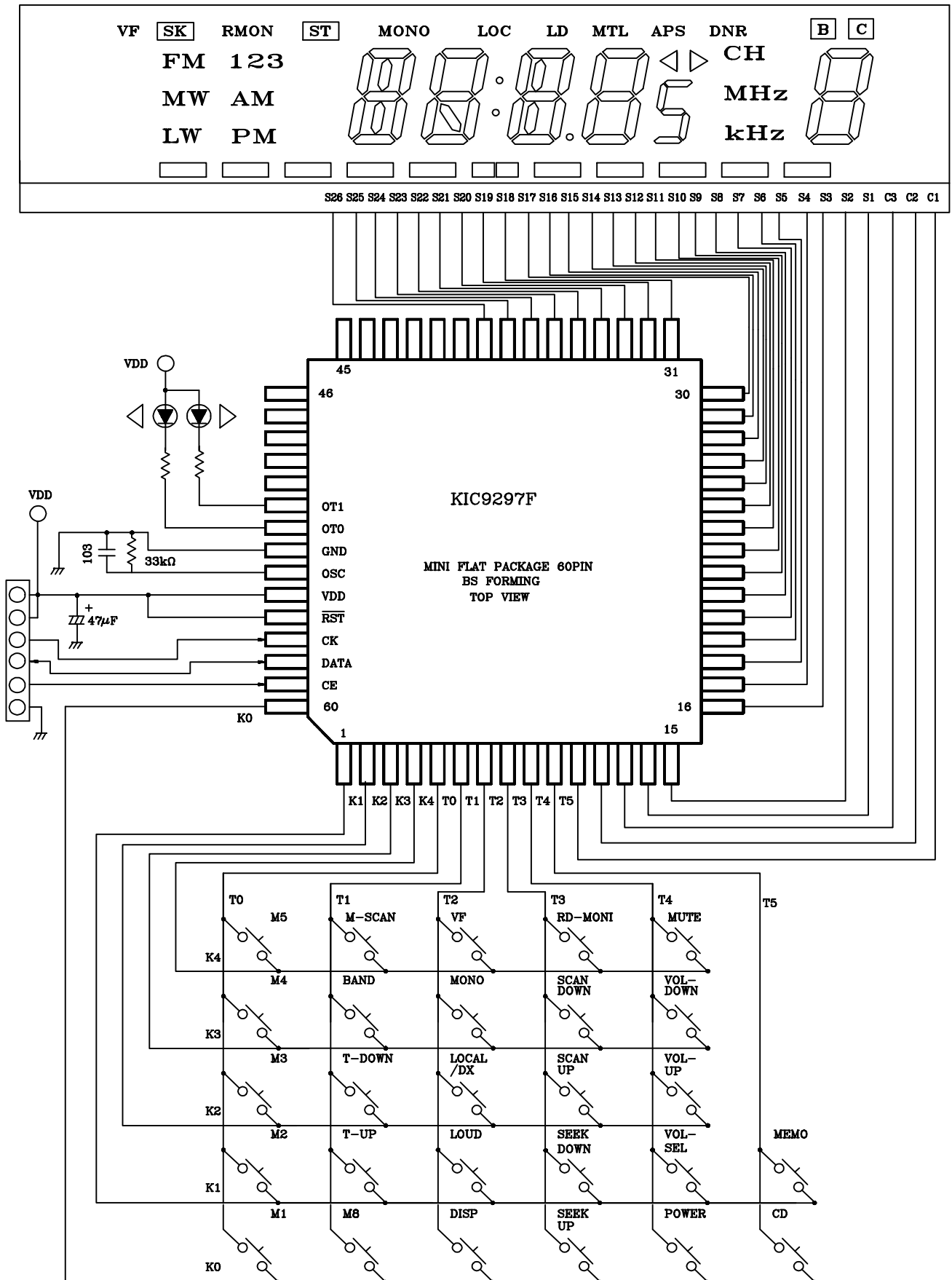
- (6) CLOCK FUNCTION
 - 12 hour display with "AM" and "PM" indicator or 24 hour display
 - The colon display is possible to select flashing.
 - In disabling clock mode, back up is possible in low power supply current 10 μ A max.

- (7) OTHER FUNCTION
 - CD input and "CD" or "DISC" display
 - Burglary prevention alarm, and LED flashing display

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KEY MATRIX (KIC9297F)

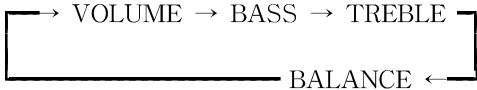
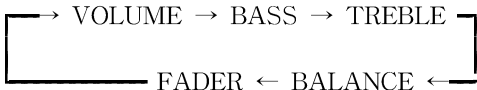
	K0	K1	K2	K3	K4
T0	M1	M2	M3	M4 (APS)	M5 (DNR/APS)
T1	M6 (METAL /DNR)	T-UP (MIN-ADJ)	T-DOWN (HOUR- ADJ)	BAND	M-SCAN (AUTO- MEMO)
T2	DISP	LOUD	LOCAL / DX	MONO	VF
T3	SEEK -UP	SEEK -DOWN	SCAN -UP	SCAN -DOWN	RADIO -MONI
T4	POWER	VOL -SEL	VOL -UP	VOL -DOWN	MUTE
T5	CD	MEMORY	-	-	-

DIODE MATRIX (KIC9320F)

	K0	K1	K2	K3
OT36	A0	A1	A2	IF -SHIFT
OT35	LW0	LW1	B0	B1
OT34	AUTO -SEEK	VF	COLON FLASH	CLOCK DISABLE
OT33	T0	T1	T2	TAPE DISPLAY
OT32	E-VOL	VOL-IC SELECT	FADER	CD DISPLAY
OT31	CLOCK PRIORITY	FREQ. PRIORITY	*O.T.M DISABLE	12H / 24H
OT30	AM STEREO	POWER KEY	CLOCK DISPLAY	-20dB MUTE
OT29	ALARM	LED FLASH	AUTO LOC	A-MEMORY DISABLE
OT28	-	-	-	-

* O.T.M = One Touch Memory

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SYMBOL	EXPLANATION OF FUNCTION
MONO	<p>Changing STEREO/MONO in radio mode. The MONO output outputs "H", and the "MONO" mark on LCD is indicated, when MONO is selected. This function is valid in AM band when AM stereo mode is selected.</p>
VF	<p>Changing receiving band to VF(SDK) band. In VF band, the "VF" mark on LCD is indicated and the VF terminal outputs "H". And it is necessary that the SK input is "H" with the SD input or IF signal for stopping of the auto tuning. The way of changing to the original band is to push the [VF] key or the [BAND] key.</p>
SEEK UP/DOWN	<p>Seek up/down tuning key. If the station is received, auto tuning is stopped. This function is invalid in auto seek mode.</p>
SCAN UP/DOWN	<p>Scan up/down tuning key. If the station is received, auto tuning is stopped for 5 sec. After 5 sec. auto tuning start again.</p>
RADIO -MONI	<p>During CD/TAPE, radio monitor can be executed. All radio function is valid in radio monitor mode. Radio monitor is clear for pushing [RADIO MONITOR] key again.</p>
POWER	<p>Used for power ON/OFF. Every pushing of [POWER] key, power output is changed "H"/"L". This function is invalid when power diode jumper is 0.</p>
VOL-SEL	<p>Changing volume mode cyclically. If key is pushed, mode is changed as shown below. Each mode returns to volume mode. if [VOL-SEL] key, [VOL-UP] key or [VOL_DOWN] key is not push for 5 sec, and display returns to frequency, clock, CD or TAPE. in case of fader diode = "1"  in case of fader diode = "0" </p>

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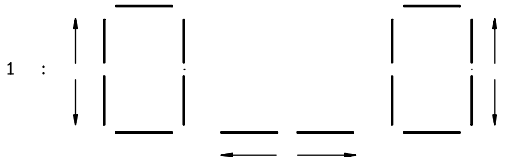







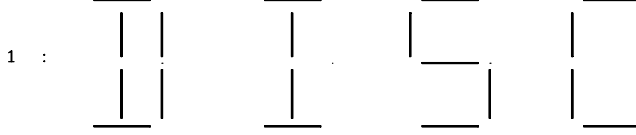
SYMBOL	EXPLANATION OF FUNCTION		
VOL-UP VOL-DOWN	Volume control key.		
	VOL-MODE	VOL-UP	VOL-DOWN
	VOLUME	UP	DOWN
	BASS	BOOST	CUT
	TREBLE		
	BALANCE	Lch-DOWN	Rch-DOWN
	FADER	FRONT-DOWN	REAR-DOWN
MUTE	<p>Use for turning ON/OFF of volume mute. During volume mute, volume level indicator is flashed at 1 Hz. The volume mute is released by pushing [MUTE], [VOL-SEL], [VOL-UP] key or [VOL-DOWN] key.</p>		
CD	<p>Use for turning ON/OFF of CD mode. This function is valid when CD input is "H". During CD mode, display is indicated "CD" mark or "DISC" mark on LCD, and input selector is changed to CD input.</p>		
MEMORY	<p>When frequency is displayed, this key is used for setting of memory writing enable state. When clock is displayed, this key is used for setting of the clock adjusting enable state. Each enable state is clear after 5 sec, when the designated is not push for 5 sec. In case of O.T.M DISABLE jumper = 1, this function is valid.</p>		

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DIODE MATRIX FUNCTION EXPLAIN (1 : diode set , 0 : diode not set)

SYMBOL	EXPLANATION OF FUNCTION					
A0, A1, A2 LW0, LW1	Setting the area of receiving station. Refer to receiving frequency list.					
IF-SHIFT	changing IF of AM band. 0 : MW/LW-IF = 450kHz 1 : MW/LW-IF = 459kHz					
B0, B1	Setting the number of memory bank.					
	B1	B0	FM	MW		
	0	0	FM 1 - 2 - 3	MW 1-2		
	0	1	FM 1 - 2 - 3	MW 1		
	1	0	FM 1 - 2	MW 1		
1	1	FM1	MW 1			
AUTO SEEK	The function of key is set by this jumper. 0 : If key is pushed for more than 0.5 sec, frequency step up or down continuously. 1 : If key is pushed for more than 0.5 sec, SEEK is start.					
VF	Use for setting action of VF (SDK.) 0 : VF (SDK) is disabled. ([VF] key is invalid.) 1 : VF (SDK) is enabled.					
CLOCK DISABLE 12H / 24H COLON FLASH	Setting action of clock.					
	CLOCK DISABLE	12H / 24H	COLON FLASH	CLOCK ACTION		
	1	-	-	CLOCK DISABLE		
	0	0	0	12H CLOCK	COLON : flashing at 1Hz rate	
			1		COLON : always lighting	
1	1	0	24H CLOCK	COLON : flashing at 1Hz rate		
		1		COLON : always lighting		
T0 T1 T2	Setting action of tape function					
	T2	T1	T0	M4	M5	M6
	0	0	0	tape function disable		
	0	0	1	-	-	METAL
	0	1	0	-	-	DNR B
	0	1	1	-	DNR B	METAL
	1	0	0	-	APS	METAL
	1	0	1	-	DNR B, C	METAL
	1	1	0	APS	DNR B	METAL
1	1	1	APS	DNR B, C	METAL	

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SYMBOL	EXPLANATION OF FUNCTION																			
TAPE DISPLAY	Use for changing display of tape in tape mode. 0 : < > (In case of FF/REV, flashing at 2Hz rate.) <div style="display: flex; align-items: center;"> 1 :  <div style="margin-left: 20px;"> (In case of PLAY, the segment is shifted for 0.5 sec. In case of FF/REW, the segment is shifted for 0.10sec.) </div> </div>																			
E-VOL VOL-IC SELECT FADER DISABLE	Setting action of electronic volume. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">E-VOL</th> <th style="width: 15%;">FADER</th> <th>ELECTRONIC VOLUME FUNCTION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">-</td> <td>ELECTRONIC VOLUME DISABLE</td> </tr> <tr> <td rowspan="2" style="text-align: center; vertical-align: middle;">1</td> <td style="text-align: center;">0</td> <td> VOL→BASS→TREBLE→BALANCE  </td> </tr> <tr> <td style="text-align: center;">1</td> <td> VOL→BASS→TREBLE→BALANCE  </td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">VOL-IC SELECT</th> <th>ELECTRONIC VOLUME IC</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0</td> <td>KIC9188N/F select</td> </tr> <tr> <td style="text-align: center;">1</td> <td>KIC9210P select</td> </tr> </tbody> </table>			E-VOL	FADER	ELECTRONIC VOLUME FUNCTION	0	-	ELECTRONIC VOLUME DISABLE	1	0	VOL→BASS→TREBLE→BALANCE 	1	VOL→BASS→TREBLE→BALANCE 	VOL-IC SELECT	ELECTRONIC VOLUME IC	0	KIC9188N/F select	1	KIC9210P select
E-VOL	FADER	ELECTRONIC VOLUME FUNCTION																		
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0	KIC9188N/F select																			
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CD DISPLAY	Use for changing display of CD in CD mode. <div style="display: flex; align-items: center;"> 0 :  </div> <div style="display: flex; align-items: center;"> 1 :  </div>																			
CLOCK PRIORITY FREQ PRIORITY	Setting the priority of display clock / frequency. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">FREQ. PRIORITY</th> <th style="width: 15%;">CLOCK PRIORITY</th> <th>DISPLAY FUNCTION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td>NO PRIORITY (Changing display by [display] key.)</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td>Display of clock is prior.</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td>Display of frequency, CD or TAPE is prior.</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> <td>RADIO MODE : Priority of frequency CD/TAPE MODE : Priority of clock</td> </tr> </tbody> </table>			FREQ. PRIORITY	CLOCK PRIORITY	DISPLAY FUNCTION	0	0	NO PRIORITY (Changing display by [display] key.)	0	1	Display of clock is prior.	1	0	Display of frequency, CD or TAPE is prior.	1	1	RADIO MODE : Priority of frequency CD/TAPE MODE : Priority of clock		
FREQ. PRIORITY	CLOCK PRIORITY	DISPLAY FUNCTION																		
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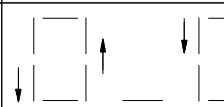
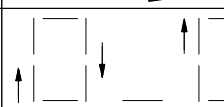
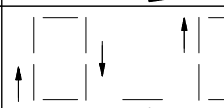

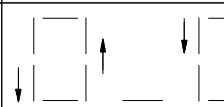
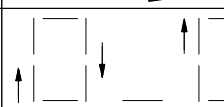
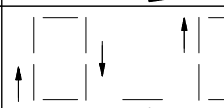

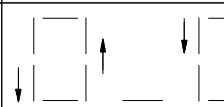
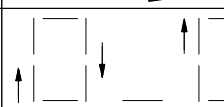
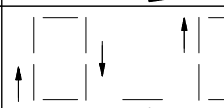
SYMBOL	EXPLANATION OF FUNCTION
O. T. M DISABLE	Setting action of one touch memory. 0 : If preset memory key ([M1]-[M6]) is pushed for more than 2 sec continuously, the frequency is written is preset memory. The clock adjustment is caused by [T-UP], [T-DOWN] key after pushing [DISPLAY] key for more than 2 sec. The hour of the clock is adjusted by the [T-UP] key, while the minute is adjusted by the [T-DOWN] key. 1 : After [MEMORY] key is pushed, if preset memory key is pushed within 5 seconds, the frequency is written. The clock adjustment is caused by [T-UP], [T-DOWN] key after pushing [MEMORY] key.
AM STEREO	Setting action of [MONO] key and indicator of stereo. 0 : Valid at only FM band. 1 : Valid at FM band and AM band.
POWER KEY	Setting to use [POWER] key. 0 : Turning ON/OFF is executed by ACC(INH) input Disability of [POWER] key. 1 : Turning ON/OFF is executed by [POWER] key.
CLOCK DISPLAY	Setting display of clock, during power off. 0 : Clock display enabled, during power off. 1 : Clock display is disabled, during power off.
-20dB MUTE	Setting [MUTE] key, function. 0 : A-MUTE terminal outputs "H" when [MUTE] key is pushed. 1 : The value of electronic volume is reduced 20dB and 20dB MUTE terminal outputs "H", when [MUTE] key is pushed.
ALARM	Setting the alarm output for forgetting to detach the panel during ACC OFF ACC(INH="L"). 0 : An alarm is not given. 1 : An alarm is given. But alarm is stopped when the PANEL IN terminal inputs "L" or 20 sec later.
LED FLASH	If PANEL IN terminal inputs "L", the LED is flashed during ACC OFF(INH="L"). 0 : Flashing LED is disabled. 1 : Flashing LED is enabled.

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I/O PORTS

PORT	NO.	NAME	I/O	FUNCTION	ACTIVE	CASE OF NOT USE
IN 1	66	SD-IN	IN	A radio station detecting input. The station is received when this input is "H".	H	GND
IN 2	65	IF-IN	IN	IF counter input. This port is inputted more than 100mV _{rms} in AC connection.	-	GND
P1-1	61	NC	IN	NOT USED.	-	GND
P1-2	60	TAPE-IN	IN	TAPE DETECTING INPUT.	H	GND
P1-3	59	CD-IN	IN	CD DETECTING INPUT. The action of CD key is active when CD input is "H".	H	GND
P1-4	58	PANEL	IN	DETECTION OF DETACHABLE PANEL. (prevention of chattering for 0.2sec~0.5sec.) IN="H", OUT="L"	H	V _{DD}
P2-1	57	DATA-IN	IN	communicate to KIC9297F LCD driver and key input.	-	-
P2-2	56	DATA-OUT	OUT			
P2-3	55	CK	OUT			
P2-4	54	NC	IN	NOT USED.	-	OPEN
P3-1	53	STEREO	IN	STEREO DETECTING INPUT.	H	GND
P3-2	52	DK-IN	IN	DK DETECTING INPUT. Audio input is changed from TAPE/CD mode to radio mode when DK input is "H" in stand-by mode of VF band.	H	GND
P3-3	51	SK-IN	IN	SK DETECTING INPUT. "SK" mark on LED is indicated when SK input is "H". This input is used as signal to stop auto tuning in VF band.	H	GND

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PORT	NO.	NAME	I/O	FUNCTION	ACTIVE	CASE OF NOT USE																										
P4-1	50	DIR	IN	INPUT TO DETECTING DIRECTION OF TAPE. • When [TAPE DISPLAY] key is OFF. <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th>DIR</th> <th>FF/REW</th> <th>DISPLAY</th> </tr> </thead> <tbody> <tr> <td rowspan="2">L</td> <td>L</td> <td>1></td> </tr> <tr> <td>H</td> <td>" >" 2Hz FLASH</td> </tr> <tr> <td rowspan="2">H</td> <td>L</td> <td>< </td> </tr> <tr> <td>H</td> <td>" < " 2Hz FLASH</td> </tr> </tbody> </table> • When [TAPE DISPLAY] key is ON. <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th>DIR</th> <th>FF/REW</th> <th>DISPLAY</th> </tr> </thead> <tbody> <tr> <td rowspan="2">L</td> <td>L</td> <td> (0.5 sec)</td> </tr> <tr> <td>H</td> <td> (0.10 sec)</td> </tr> <tr> <td rowspan="2">H</td> <td>L</td> <td> (0.5 sec)</td> </tr> <tr> <td>H</td> <td> (0.10 sec)</td> </tr> </tbody> </table> • This function is actuated in tape mode.	DIR	FF/REW	DISPLAY	L	L	1>	H	" >" 2Hz FLASH	H	L	<	H	" < " 2Hz FLASH	DIR	FF/REW	DISPLAY	L	L	 (0.5 sec)	H	 (0.10 sec)	H	L	 (0.5 sec)	H	 (0.10 sec)	-	GND
DIR	FF/REW	DISPLAY																														
L	L	1>																														
	H	" >" 2Hz FLASH																														
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DIR	FF/REW	DISPLAY																														
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H	L	 (0.5 sec)																														
	H	 (0.10 sec)																														
P4-2	49	FF/REW	IN	-	GND																											
P4-3	48	CK	OUT	Output to control KIC9210P electronic volume. CK => SCL DATA => SDA	-	OPEN																										
P4-4	47	DATA	OUT		-	OPEN																										
OT 1	46	CE	OUT	communicate to KIC9297F.	-	-																										
OT 2	45	Power	OUT	OUTPUT TO CONTROL THE POWER	H	OPEN																										
OT-3	44	A-MUTE	OUT	AUDIO MUTE INPUT. When the function is changing. this port is "H" for a certain period of time.	H	OPEN																										
OT-4	43	T-MUTE	OUT	TUNING MUTE INPUT. During tuning, this port is "H" for a certain period of time.	H	OPEN																										
T 7	42	BAND 1	OUT	CHANGING BAND OUTPUT. <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th>BAND</th> <th>BAND1</th> <th>BAND2</th> <th>VF</th> </tr> </thead> <tbody> <tr> <td>FM</td> <td>H</td> <td>L</td> <td>L</td> </tr> <tr> <td>MW</td> <td>L</td> <td>L</td> <td>L</td> </tr> <tr> <td>LW</td> <td>L</td> <td>H</td> <td>L</td> </tr> <tr> <td>FM (L)</td> <td>H</td> <td>H</td> <td>L</td> </tr> <tr> <td>VF</td> <td>H</td> <td>L</td> <td>H</td> </tr> </tbody> </table> • FM (L) = 65.0 ~ 74.0 MHz	BAND	BAND1	BAND2	VF	FM	H	L	L	MW	L	L	L	LW	L	H	L	FM (L)	H	H	L	VF	H	L	H	-	OPEN		
BAND	BAND1	BAND2	VF																													
FM	H	L	L																													
MW	L	L	L																													
LW	L	H	L																													
FM (L)	H	H	L																													
VF	H	L	H																													
T 6	41	BAND 2	OUT	-	OPEN																											
T 5	40	VF	OUT	-	OPEN																											

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PORT	NO.	NAME	I/O	FUNCTION	ACTIVE	CASE OF NOT USE										
T 4	39	ALARM	OUT	ALARM OUTPUT FOR FORGETTING TO DETACHABLE PANEL. ALARM SEL = "1". An alarm is given for 20 sec at $\overline{\text{ACC}}$ = "L". PANEL = "H".	H	OPEN										
T 3	38	CK	OUT	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">Output to control electronic volume.</td> </tr> <tr> <td style="text-align: center;">Port</td> <td style="text-align: center;">KIC9188N/F</td> </tr> <tr> <td style="text-align: center;">CK</td> <td style="text-align: center;">CK</td> </tr> <tr> <td style="text-align: center;">DATA</td> <td style="text-align: center;">DATA</td> </tr> <tr> <td style="text-align: center;">STB</td> <td style="text-align: center;">STB</td> </tr> </table>	Output to control electronic volume.		Port	KIC9188N/F	CK	CK	DATA	DATA	STB	STB	H	OPEN
Output to control electronic volume.																
Port	KIC9188N/F															
CK	CK															
DATA	DATA															
STB	STB															
T2	37	DATA	OUT	H	OPEN											
T1	36	STB	OUT	H	OPEN											
T 0	35	BEEP	OUT	OUTPUT BUZZER.	H	OPEN										
K 3	34	DI3	IN	DIODE MATRIX INPUT.	H	GND										
K 2	33	DI2	IN		H	GND										
K 1	32	DI1	IN		H	GND										
K 0	31	DI0	IN		H	GND										
OT 36	28	DS0	OUT	Output to scan matrix of diode.	H	OPEN										
OT 35	27	DS1	OUT		H	OPEN										
OT 34	26	DS2	OUT		H	OPEN										
OT 33	25	DS3	OUT		H	OPEN										
OT 32	24	DS4	OUT		H	OPEN										
OT 31	23	DS5	OUT		H	OPEN										
OT 30	22	DS6	OUT		H	OPEN										
OT 29	21	DS7	OUT		H	OPEN										
OT 28	20	DS8	OUT		H	OPEN										
OT 5	77	APS	OUT	Output to turning ON/OFF of searching music.	H	OPEN										
OT 6	78	MTL	OUT	Output to charging metal/normal of tape function.	H	OPEN										
OT 7	79	NR 1	OUT	Output to charging B/C of DNR(DOLBY). NR1 output is B. NR2 output is C.	H	OPEN										
OT 8	80	NR 2	OUT		H	OPEN										
OT 9	1	LUD	OUT	Output to control loudness.	H	OPEN										
OT 10	2	LOC	OUT	Output to charging LOCAL/DX. LOCAL="H". DX="L".	H	OPEN										
OT 11	3	MONO	OUT	Output to charging MONO/STEREO. MONO="H". STEREO="L".	H	OPEN										
OT 12	4	20 dBMUTE	OUT	-20dB MUTE OUTPUT. This function is active when -20dB mute jumper is "H".	H	OPEN										
OT 13	5	AGC-out (IF-REQ)	OUT	"H" is outputted in searching action. This function is used to control signal of IF count or cut action of AGC circuit.	H	OPEN										

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PORT	NO.	NAME	I/O	FUNCTION	ACTIVE	CASE OF NOT USE																								
OT 14	6	Radio	OUT	Output to changing signal, of audio <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 10%;">MODE</th> <th style="width: 10%;">Radio</th> <th style="width: 10%;">TAPE</th> <th style="width: 10%;">CD</th> <th style="width: 10%;">MODE1</th> <th style="width: 10%;">MODE2</th> </tr> </thead> <tbody> <tr> <td>RADIO</td> <td>H</td> <td>L</td> <td>L</td> <td>H</td> <td>L</td> </tr> <tr> <td>TAPE</td> <td>L</td> <td>H</td> <td>L</td> <td>L</td> <td>L</td> </tr> <tr> <td>CD</td> <td>L</td> <td>L</td> <td>H</td> <td>L</td> <td>H</td> </tr> </tbody> </table> This output of mode 1/2 is used to control KIC4052BP/F analogue switch.	MODE	Radio	TAPE	CD	MODE1	MODE2	RADIO	H	L	L	H	L	TAPE	L	H	L	L	L	CD	L	L	H	L	H	-	OPEN
MODE	Radio	TAPE	CD		MODE1	MODE2																								
RADIO	H	L	L		H	L																								
TAPE	L	H	L		L	L																								
CD	L	L	H		L	H																								
OT 15	7	TAPE	OUT	-	OPEN																									
OT 16	8	CD	OUT	-	OPEN																									
OT 17	9	MODE1	OUT	-	OPEN																									
OT 18	10	MODE2	OUT	-	OPEN																									
OT 19	11	LED FLASH	OUT	This function is active when $\overline{\text{ACC}}$ input is "L" and panel input is "L". This output is repeated "H" state for 0.1sec and "L" state for 0.9sec. But this output is not used when jumper of LED FLASH is OFF.	H	OPEN																								

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SYMBOL	PIN NO.	SEGMENT NAME			FUNCTION
		COM1	COM2	COM3	
COM 1	11	COM 1	-	-	COMMON 1
COM 2	12	-	COM2	-	COMMON 2
COM 3	13	-	-	COM3	COMMON 3
s 1	14	LW	MW	FM	FM : FM band MW : MW band LW : VF band
s 2	15	PM	AM	VF	VF : VF band 1-2-3 : bank 1 bank 2 bank 3
s 3	16	1e	1f	1	AM : AM (clock) PM : PM (clock)
s 4	17	1g	1a	2	1a-e-f-g : 1602 / 12:00
s 5	18	1hi	1b	3	SK : SK DISPLAY RMON : RADIO MONITOR ST : STEREO
s 6	19	1d	1c	SK	1-b-c-d : 1602 / 12:00
s 7	20	2e	2f	RMON	1h-i : 1602 / 12:00
s 8	21	2g	2a	ST	2a-e-f-g : 1602 / 12:00
s 9	22	2j	2b	MONO	MONO : MONO LOC : LOCAL LD : LOUDNESS
s 10	23	2d	2c	:	: : COLON · : ·DISPLAY
s 11	24	3e	3f	LOC	2b-c-d-j : 1602 / 12:00
s 12	25	3g	3a	LD	3a-e-f-g : 1602 / 12:00
s 13	26	3hi	3b	·	MTL : METAL APS : APS DISPLAY < : < DISPLAY
s 14	27	3d	3c	MTL	3b-c-d : 1602 / 12:00
s 15	28	4e	4f	APS	3h-i : 1602 / 12:00
s 16	29	4g	4a	<	4a-e-f-g : 1602 / 12:00
s 17	30	5	4b	>	KHz : KHz DISPLAY MHz : MHz DISPLAY CH : CH DISPLAY
s 18	31	4d	4c	KHz	> : > DISPLAY 5 : 107.75
s 19	32	5e	5f	MHz	4b-c-d : 1602 / 12:00
s 20	33	5g	5a	CH	5a-e-f-g : ch 8
s 21	34	B	5b	DNR	DNR : DNR DISPLAY 5b-c-d : ch 8
s 22	35	5d	5c	C	B : B mark C : C mark
s 23	36	(K)	(J)	-	(A)(B)(C) : VOLUME LEVEL
s 24	37	(G)	(I)	(H)	(D)(E)(F) : VOLUME LEVEL
s 25	38	(A)	(B)	(C)	(G)(H)(I) : VOLUME LEVEL
s 26	39	(F)	(E)	(D)	(J)(K) : VOLUME LEVEL
s 27	40	-	-	-	
s 28	41	-	-	-	

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KIC9320F-001 LCD map

