

OUTLINE OF SYSTEM

KIC9321F-008 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 : KIC9321F-008 (QFP-60 Pin)
- LCD driver can control condition of key. : KIC9297F (QFP-60Pin)
- Electronic volume : KIC9421F

RECEIVING BAND

AREA			BAND	RECEIVING FREQ. (Hz)	STEP (Hz)	f _{ref} (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	1	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	87.5 ~ 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)		f _{ref} (Hz)	IF (Hz)
LW1	LW0			MANUAL	AUTO		
0	0	LW DISABLE	—				
0	1	LW ENABLE	153 k ~ 279 k	1k	9k	1k	+450k / +459k
1	0		144 k ~ 288 k				
1	1		146 k ~ 290/288 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
 - Maximum 42 stations in total.
 - Each band has a last memory.

- (3) RADIO FUNCTION
 - LOC/DX control (AUTO LOCAL FUNCTION select possible)
 - STEREO DISPLAY and MONO/STEREO select
 - RADIO MONITOR FUNCTION

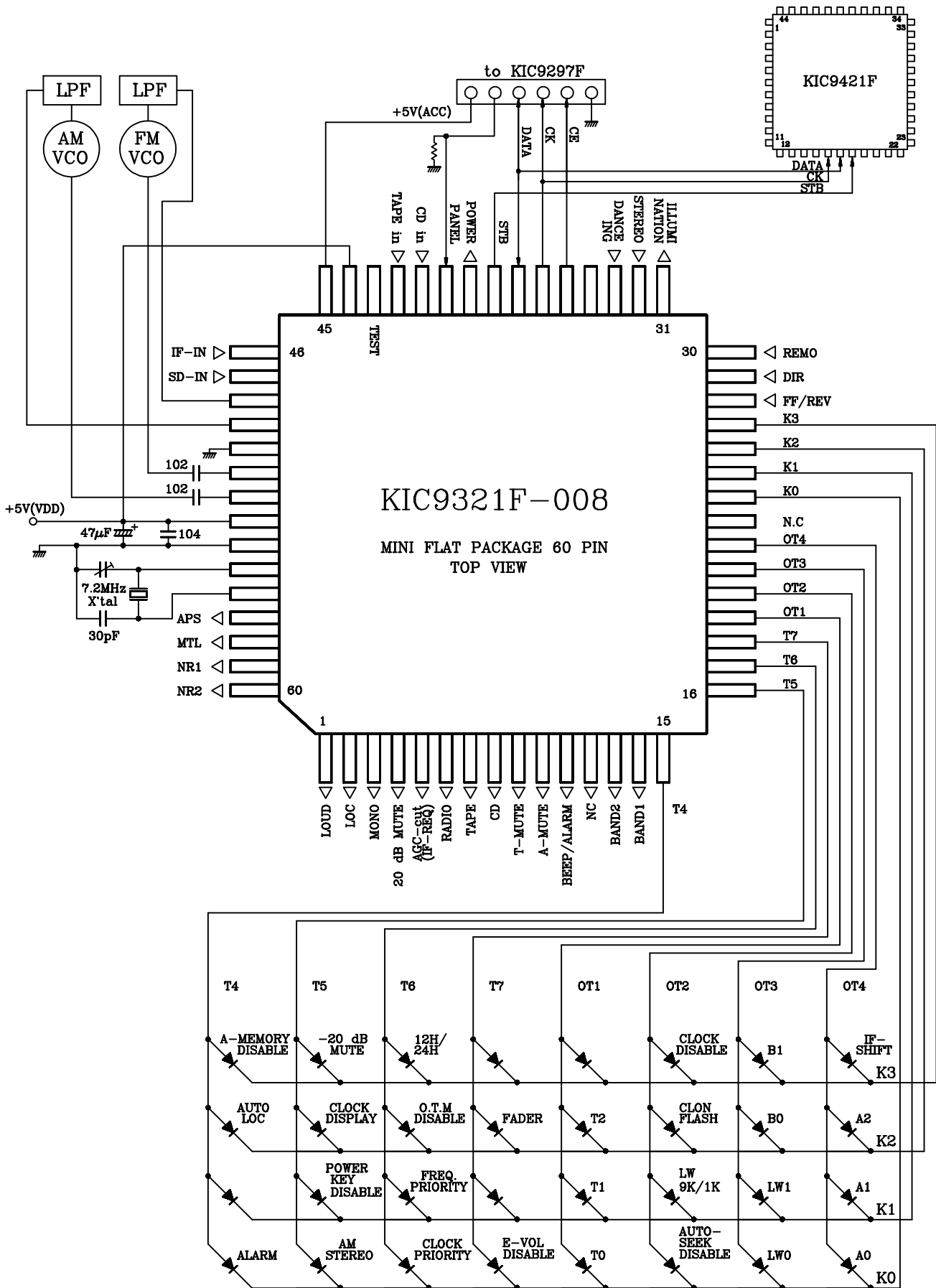
- (4) TAPE FUNCTION
 - "TAPE" DISPLAY
 - METAL/NORMAL select
 - APS ON/OFF control
 - DNR ON/OFF and B/C select
 - TAPE RUNNING DISPLAY (|> / <|)

- (5) ELECTRONIC VOLUME / INPUT SELECT FUNCTION
 - VOLUME / BASS / TREBLE / BALANCE / FADER
 - LOUDNESS CONTROL
 - RADIO / TAPE / CD INPUT
 - MUTE FUNCTION
 - KIC9421F select

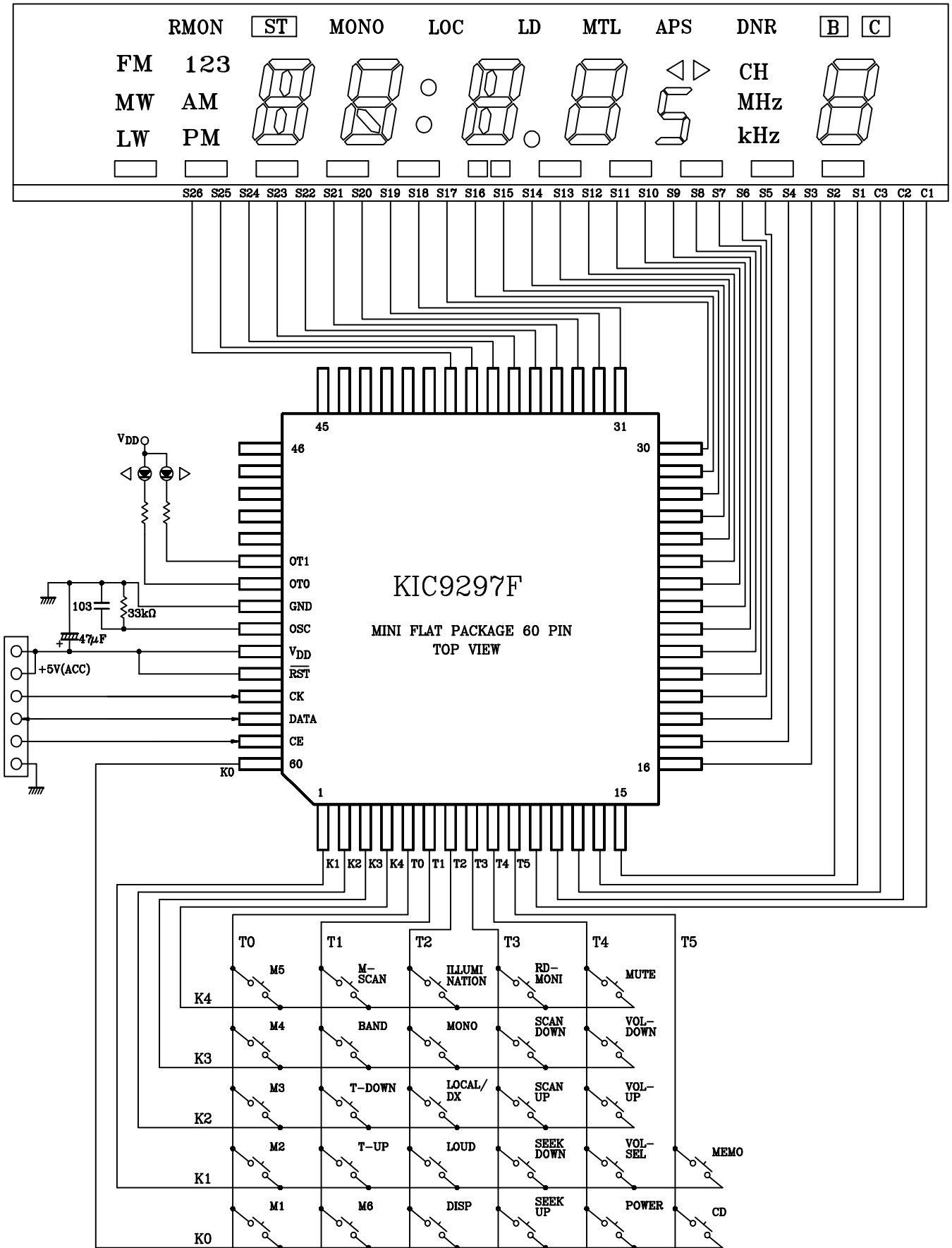
- (6) CLOCK FUNCTION
 - 12 hour display with "AM" and "PM" indicator or 24 hour display
 - The colon display is possible to select flashing.

- (7) OTHER FUNCTION
 - CD input and "CD" display.
 - Burglary prevention alarm.

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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	ILLUMI NATION
T3	SEEK -UP	SEEK -DOWN	SCAN -UP	SCAN -DOWN	RADIO -MONI
T4	POWER	VOL -SEL	VOL -UP	VOL -DOWN	MUTE
T5	CD	MEMORY	-	-	-

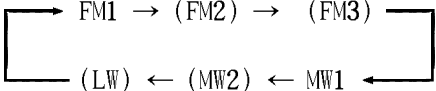
DIODE MATRIX (KIC9321F)

	K0	K1	K2	K3
T4	ALARM	-	AUTO LOC	A-MEMORY disable
T5	AM STEREO	POWER KEY disable	CLOCK DISPLAY	-20dB MUTE disable
T6	CLOCK PRIORITY	FREQ. PRIORITY	* O. T. M DISABLE	12H / 24H
T7	E-VOL disable	-	FADER disable	-
OT1	T0	T1	T2	-
OT2	A-SEEK disable	LW 9k/1k	COLON FLASH disable	CLOCK disable
OT3	LW0	LW1	B0	B1
OT4	A0	A1	A2	IF -SHIFT

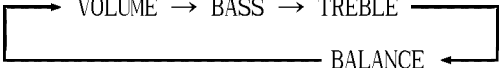
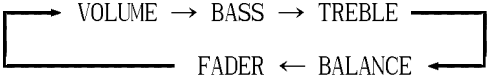
* O.T.M = One Touch Memory

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KEY MATRIX FUNCTION EXPLANATION

SYMBOL	EXPLANATION OF FUNCTION
M1~M3	Calling and writing preset memory. (1~3ch)
M4 (APS)	In radio mode, calling and writing preset memory. (4~6ch) These keys are act as the tape function key in tape mode.
M5 (DNR/APS)	In each function, the mark on LCD is indicated and corresponding put outputs "H" level.
M6 (METAL/DNR)	The tape function key is set by jumper of [T0] , [T1] , [T2].
T-UP (MIN/ADJ)	The receiving frequency steps up or down by pushing this key. If key is pushed for more than 0.5 sec, frequency steps up continuously. In case of AUTO SEEK function, it becomes SEEK tuning.
T-DOWN (HOUR-ADJ)	During clock adjusting mode, hour or minute of clock is adjusted by pushing this key.
BAND	Changing the receiving band cyclically. Every pushing of this key, the band is changed as shown below. 
M-SCAN (A-MEMO)	The MEMORY SCAN function is started by pushing this key for less than 2 sec. The frequency written in memory is called in order. The station will be received for 5 sec. If this key pushed for more than 2sec, the AUTO MEMORY turning is started. The search turning is started from current frequency, and first cycle is execute at local mode, then the frequency is written in memory, if the station can be received at frequency. If the station can not be received at, second cycle is started DX mode.
DISPLAY	Changing displays of clock, frequency, or CD/TAPE. This function is invalid in clock disable mode.
LOUD	Used for turning ON/OFF of LOUDNESS. "H" is outputted from LOUDNESS output and the "LD" mark on LCD is indicated, when the LOUDNESS function turn ON. And electronic volume IC is controlled.
LOCAL /DX	Used for changing LOCAL/DX in radio mode. The local output outputs "H" during auto turning, and the LOC mark on LCD is indicated, when the LOCAL is selected. This function is invalid in auto LOCAL mode.

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SYMBOL	EXPLANATION OF FUNCTION
MONO	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.
ILLUMINATION	Used for illumination ON/OFF. Every pushing of [ILLUMINATION] key. illumination output is changed "H"/"L"
SEEK UP/DOWN	Seek up/down tuning key. If the station is received, auto tuning is stopped. This function is invalid in auto seek mode.
SCAN UP/DOWN	Scan up/down tuning key. If the station is received, auto tuning is stopped for 5 sec. After 5 sec. auto tuning start again.
RADIO -MONI	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.
POWER	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".
VOL-SEL	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" 

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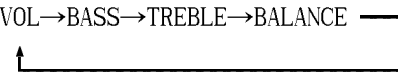
SYMBOL	EXPLANATION OF FUNCTION		
VOL-UP VOL-DOWN	Volume control key.		
	VOL-MODE	VOL-UP	VOL-DOWN
	VOLUME	UP	DOWN
	BASS	BOOST	
	TREBLE		
	BALANCE	Lch-DOWN	Rch-DOWN
	FADER	FRONT-DOWN	REAR-DOWN
MUTE	<p>Use for turning ON/OFF of volume mute. During volume mute, volume level indicator is flashed at 1 Hz. 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	Select 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 DISABLE	The function of key is set by this jumper. 0 : If key is pushed for more than 0.5 sec, SEEK is start 1 : If key is pushed for more than 0.5 sec, frequency step up or down continuously.						
LW 9K/1K	Select STEP of LW band in auto tuning (SEEK/SCAN) 0 : 9kHz STEP 1 : 1kHz STEP						
CLOCK DISABLE 12H / 24H COLON FLASH DISABLE	Setting action of clock.						
		CLOCK DISABLE	12H / 24H	COLON FLASH DISABLE	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	-	-	METAL
		0	0	1	tape function disable		
		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		
E-VOL DISABLE FADER DISABLE	Setting action of electronic volume.		
	E-VOL	FADER	ELECTRONIC VOLUME FUNCTION
	0	0	VOL→BASS→TREBLE→BALANCE 
		1	VOL→BASS→TREBLE→BALANCE 
	1	-	ELECTRONIC VOLUME DISABLE
CLOCK PRIORITY FREQ. PRIORITY	Setting the priority of display clock / frequency.		
	FREQ. PRIORITY	CLOCK PRIORITY	DISPLAY FUNCTION
	0	0	Display of frequency, CD or TAPE is prior.
	0	1	Display of clock is prior.
	1	0	NO PRIORITY (Changing display by [display] key.)
1	1	RADIO MODE : Priority of frequency CD/TAPE MODE : Priority of clock	
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 DISABLE	Setting to use [POWER] key. 0 : Turning ON/OFF is executed by [POWER] key. 1 : Turning ON/OFF is executed by ACC (INH) input disability of [POWER] key.		
CLOCK DISPLAY	Setting display of clock, during power off. 0 : Clock display is disable, during power off. 1 : Clock display is enabled, during power off.		

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SYMBOL	EXPLANATION OF FUNCTION
-20dB MUTE DISABLE	Setting [MUTE] key, function. 0 : The value of electronic volume is reduced 20dB and 20dB MUTE terminal outputs "H", when [MUTE] key is pushed. 1 : A-MUTE terminal outputs "H" when [MUTE] key is pushed.
ALARM	Setting the alarm output for forgetting to detach the panel during ACC OFF (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.
AUTO LOC.	Setting for automatically LOCAL/DX. 0 : Changing function of LOCAL/DX is executed by pushing [LOCAL] key, Automatically LOCAL/DX is disabled. 1 : The first cycle is start at local mode in the auto tuning (SEEK/SCAN), after key pushing, auto tuning is executed at DX mode. ([LOCAL] key is disabled.) (EXAMPLE) <div style="text-align: center;"> <p>0 :</p> <p>[SEEK UP] KEY [SEEK UP] KEY</p> <p> ↓ SEEK UP ↓</p> <p> —————→ STOP</p> </div> <div style="text-align: center;"> <p>1 :</p> <p>[SEEK UP] KEY [SEEK UP] KEY [SEEK UP] KEY</p> <p> ↓ ↓ ↓</p> <p> ————→ SEEK UP (LOC) ———→ SEEK UP (DX) ———→ STOP</p> </div>
A-MEMORY DISABLE	Setting action of auto memory. 0 : Auto memory is enabled. 1 : Auto memory is disabled.

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I/O PORTS

PORT	NO.	NAME	I/O	FUNCTION	ACTIVE	CASE OF NOT USE
IN 1	47	SD-IN	IN	A radio station detecting input. The station is received when this input is "H".	H	GND
IN 2	46	IF-IN	IN	IF counter input. This port is inputted more than 100mV _{rms} in AC connection.	-	GND
P1-1	42	TAPE-IN	IN	TAPE DETECTING INPUT.	H	GND
P1-2	41	CD-IN	IN	CD DETECTING INPUT. The action of CD key is active when CD input is "H".	H	GND
P1-3	40	PANEL	IN	DETECTION OF DETACHABLE PANEL. (prevention of chattering for 0.2sec~0.5sec.) IN="H", OUT="L"	H	V _{DD}
P1-4	39	POWER	OUT	OUTPUT TO CONTROL THE POWER	H	OPEN
P2-1	38	STB	OUT	Output to control KIC9421F electronic volume.	-	OPEN
P2-2	37	DATA-IN	IN	Communicate to KIC9297F LCD driver and key input.	-	-
		DATA-OUT	OUT			
P2-3	36	CK	OUT	Using for KIC9297F or KIC9421F	-	OPEN
P2-4	35	CE	OUT	Communicate to KIC9297F.	-	OPEN
P3-1	34	DC-REF	IN	REFERENCE VOLTAGE INPUT.	-	GND
P3-2	33	AD-in1	IN	DANCING LEVEL INPUT.	-	GND
P3-3	32	STEREO	IN	STEREO DETECTING INPUT.	H	GND
P4-1	31	ILLUMINATION	OUT	Outputing control to ILLUMINATION.	H	OPEN
P4-2	30	REMO	IN	Remote control input.	-	GND

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PORT	NO.	NAME	I/O	FUNCTION	ACTIVE	CASE OF NOT USE															
P4-3	29	DIR	IN	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">DIR</td> <td style="width: 15%;">FF/REW</td> <td style="width: 15%;">DISPLAY</td> </tr> <tr> <td rowspan="2" style="text-align: center;">L</td> <td style="text-align: center;">L</td> <td style="text-align: center;"> ></td> </tr> <tr> <td style="text-align: center;">H</td> <td style="text-align: center;">">" 2Hz FLASH</td> </tr> <tr> <td rowspan="2" style="text-align: center;">H</td> <td style="text-align: center;">L</td> <td style="text-align: center;">< </td> </tr> <tr> <td style="text-align: center;">H</td> <td style="text-align: center;">"<" 2Hz FLASH</td> </tr> </table> <p>• This function is actuated in tape mode.</p>	DIR	FF/REW	DISPLAY	L	L	>	H	">" 2Hz FLASH	H	L	<	H	"<" 2Hz FLASH	-	GND		
DIR	FF/REW	DISPLAY																			
L	L	>																			
	H	">" 2Hz FLASH																			
H	L	<																			
	H	"<" 2Hz FLASH																			
P4-4	28	FF/REW	IN	-	GND																
K3	27	DI3	IN	DIODE MATRIX INPUT.	H	GND															
K2	26	DI2	IN		H																
K1	25	DI1	IN		H																
K0	24	DI0	IN		H																
OT 4	22	DS0	OUT	Output to scan matrix of diode.	H	OPEN															
OT 3	21	DS1	OUT		H	OPEN															
OT 2	20	DS2	OUT		H	OPEN															
OT 1	19	DS3	OUT		H	OPEN															
T 7	18	DS4	OUT		H	OPEN															
T 6	17	DS5	OUT		H	OPEN															
T 5	16	DS6	OUT		H	OPEN															
T 4	15	DS7	OUT		H	OPEN															
T3	14	BAND 1	OUT	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">BAND</td> <td style="width: 15%;">BAND 1</td> <td style="width: 15%;">BAND 2</td> </tr> <tr> <td style="text-align: center;">FM</td> <td style="text-align: center;">H</td> <td style="text-align: center;">L</td> </tr> <tr> <td style="text-align: center;">MW</td> <td style="text-align: center;">L</td> <td style="text-align: center;">L</td> </tr> <tr> <td style="text-align: center;">LW</td> <td style="text-align: center;">L</td> <td style="text-align: center;">H</td> </tr> <tr> <td style="text-align: center;">FM (L)</td> <td style="text-align: center;">H</td> <td style="text-align: center;">H</td> </tr> </table> <p>• FM(L) = 65.0~74.0 MHz</p>	BAND	BAND 1	BAND 2	FM	H	L	MW	L	L	LW	L	H	FM (L)	H	H	-	OPEN
BAND	BAND 1	BAND 2																			
FM	H	L																			
MW	L	L																			
LW	L	H																			
FM (L)	H	H																			
T2	13	BAND 2	OUT	-	OPEN																
T 1	12	N. C	OUT	No CONNECTION	-	OPEN															
T 0	11	BEEP	OUT	OUTPUT BUZZER. ALARM OUTPUT FOR FORGETTING TO DETACHABLE PANEL. ALARM SEL = "1". An alarm is given for 20 sec at $\overline{ACC} = "L"$. PANEL="H".	H	OPEN															
		ALARM	OUT		H	OPEN															
P5-1	57	APS	OUT	Output to turning ON/OFF of searching music.	H	OPEN															
P5-2	58	MTL	OUT	Output to charging metal/normal of tape function.	H	OPEN															
P5-3	59	NR1	OUT	Output to charging B/C of DNR (DOLBY).	H	OPEN															
P5-4	60	NR2	OUT	NR 1 output is B. NR 2 output is C.	H	OPEN															
P6-1	1	LUD	OUT	Output to control loudness.	H	OPEN															

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PORT	NO.	NAME	I/O	FUNCTION	ACTIVE	CASE OF NOT USE																
P6-2	2	LOC	OUT	Output to charging LOCAL/DX. LOCAL = "H". DX = "L".	H	OPEN																
P6-3	3	MONO	OUT	Output to charging MONO/STEREO. MONO = "H". STEREO = "L".	H	OPEN																
P6-4	4	20 dB MUTE	OUT	-20dB MUTE OUTPUT. This function is active, selecting -20dB mute jumper.	H	OPEN																
P7-1	5	AGC-cut (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																
P7-2	6	Radio	OUT	<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 5px;"> <tr> <td style="text-align: center;">MODE</td> <td style="text-align: center;">RADIO</td> <td style="text-align: center;">TAPE</td> <td style="text-align: center;">CD</td> </tr> <tr> <td style="text-align: center;">RADIO</td> <td style="text-align: center;">H</td> <td style="text-align: center;">L</td> <td style="text-align: center;">L</td> </tr> <tr> <td style="text-align: center;">TAPE</td> <td style="text-align: center;">L</td> <td style="text-align: center;">H</td> <td style="text-align: center;">L</td> </tr> <tr> <td style="text-align: center;">CD</td> <td style="text-align: center;">L</td> <td style="text-align: center;">L</td> <td style="text-align: center;">H</td> </tr> </table> <p style="margin: 0;">This output of MODE 1/2 is used to control TC4052BP/F analogue switch.</p>	MODE	RADIO	TAPE	CD	RADIO	H	L	L	TAPE	L	H	L	CD	L	L	H	-	OPEN
MODE	RADIO	TAPE	CD																			
RADIO	H	L	L																			
TAPE	L	H	L																			
CD	L	L	H																			
P7-3	7	TAPE	OUT	-	OPEN																	
P7-4	8	CD	OUT	-	OPEN																	
P8-1	9	T-MUTE	OUT	TUNING MUTE INPUT. During tuning, this port is "H" for a certain period of time.	H	OPEN																
P8-2	10	A-MUTE	OUT	AUDIO MUTE INPUT. When the function is changing, this port is "H" for a certain period of time.	H	OPEN																

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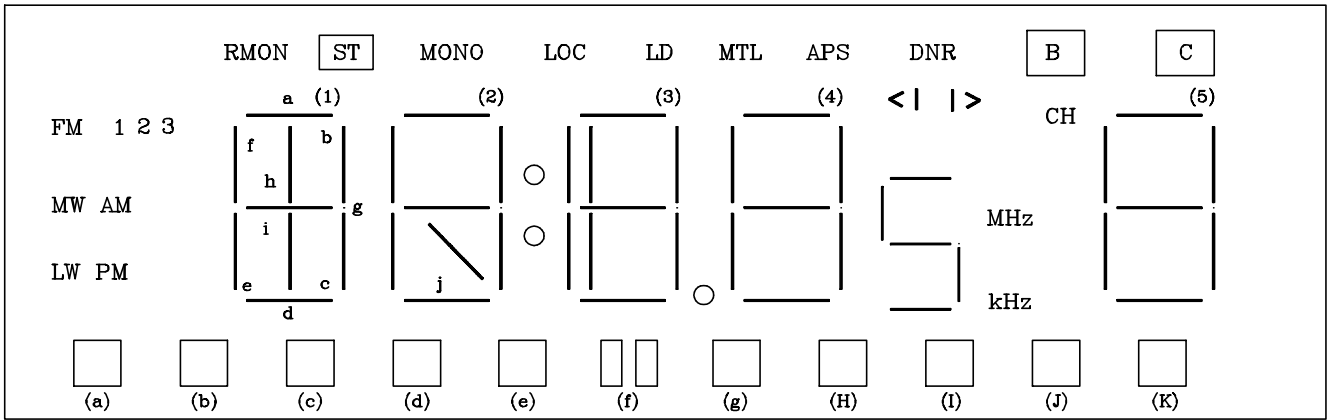
KIC9321F-008 LCD map

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 : LW band
s 2	15	PM	AM		1-2-3 : bank1 bank2 bank3
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	RMON : RADIO MONITOR ST : STEREO
s 6	19	1d	1c		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
s 10	23	2d	2c	:	LD : LOUDNESS : : COLON
s 11	24	3e	3f	LOC	· : · DISPLAY
s 12	25	3g	3a	LD	2b-c-d-j : 1602 / 12:00 3a-e-f-g : 1602 / 12:00
s 13	26	3hi	3b	·	MTL : METAL APS : APS DISPLAY
s 14	27	3d	3c	MTL	< : < DISPLAY
s 15	28	4e	4f	APS	3b-c-d : 1602 / 12:00
s 16	29	4g	4a	<	3h-i : 1602 / 12:00 4a-e-f-g : 1602 / 12:00
s 17	30	5	4b	>	kHz : kHz DISPLAY MHz : MHz DISPLAY
s 18	31	4d	4c	kHz	CH : CH DISPLAY > : > DISPLAY
s 19	32	5e	5f	MHz	5 : 107.75 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
s 23	36	(K)	(J)	--	C : C mark
s 24	37	(G)	(I)	(H)	(A)(B)(C) : VOLUME LEVEL
s 25	38	(A)	(B)	(C)	(D)(E)(F) : VOLUME LEVEL
s 26	39	(F)	(E)	(D)	(G)(H)(I) : VOLUME LEVEL
s 27	40	--	--	--	(J)(K) : VOLUME LEVEL
s 28	41	--	--	--	

* Selecting USA1, USA2 or LATIN AMERICA, display AM mark in MW band.

KIC9321F-008

L C D map



REMOTE CONTROL

1. PRINCIPAL FUNCTION

Receiving the remote control data from the KIC9243P/F.

2. I/O TO BE USED

REMOCON INPUT

3. FUNCTIONS

- a. The transmitter IC is KIC9243P/F.
- b. The custom code for the remote control is "90".
- c. The key action that correspond to the remote control data is executed.
- d. The all radio related key is valid in the tuner mode.
However, the radio related key is invalid in the mode excepting the tuner mode.
- f. The valid key on transmitter in case power is off, if the [POWER] key.

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g. The Satting for the remote contrl data on the KIC9321F-008 is as shown below.

DATA	D0	D1	D2	D3	D4	D5	D6	D7	DTS KEY
K01	1	0	0	0	0	0	0	0	M1
K02	0	1	0	0	0				M2
K03	1	1	0	0	0				M3
K04	0	0	1	0	0				M4 (APS)
K05	1	0	1	0	0				M5 (DNR/APS)
K06	0	1	1	0	0				M6 (METAL/DNR)
K07	1	1	1	0	0				T-UP (MIN-ADJ.)
K08	0	0	0	0	0	1	0	0	T-DOWN (HOUR-ADJ)
K09	1	0	0	1	0	0	0	0	BAND
K10	0	1	0	1	0				M-SCAN (AUTO-MEMO)
K11	1	1	0	1	0				DISP
K12	0	0	1	1	0				LOUD
K13	1	0	1	1	0				LOCAL/DX
K14	0	1	1	1	0				MONO
K15	1	1	1	1	0				ILLUMINATION
K16	0	0	0	0	0	1	1	0	SEEK-UP
K17	1	0	0	0	1	0	0	0	SEEK-DOWN
K18	0	1	0	0	1				SCAN-UP
K19	1	1	0	0	1				SCAN-DOWN
K20	0	0	1	0	1				RADIO-MONI
K21	1	0	1	0	1				POWER
K22	0	1	1	0	1				VOL-SEL
K23	1	1	1	0	1				VOL-UP
K24	0	0	0	0	0	1	0	1	VOL-DOWN
K25	1	0	0	1	1	0	0	0	MUTE
K26	0	1	0	1	1				CD
K27	1	1	0	1	1				MEMORY
K28	0	0	1	1	1				
K29	1	0	1	1	1				
K30	0	1	1	1	1				
K31	1	1	1	1	1				
K32	0	0	0	0	0	1	1	1	