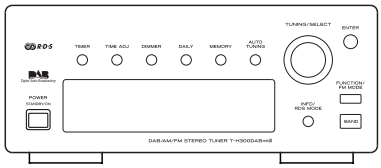
TEAC



SERVICE MANUAL

T-H300DABmkII

DAB/AM/FM Stereo Tuner

DAB
Digital Audio Broadcasting

For U.K.

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1 SPECIFICATIONS 2
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NOTES

- PC boards shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.

Effective : July, 2004

S-0122A

1 SPECIFICATIONS

FM Tuner

Tuning range .....87.50 – 108.00 MHz (50 kHz steps)
Signal-to-Noise ratio .....65 dB (Mono)
60 dB (Stereo)

AM Tuner

Tuning range .....522 – 1620 kHz (9 kHz steps)
Signal-to-Noise ratio .....35 dB

DAB Tuner

Tunig range .....Band 3, 174 MHz – 240 MHz
Input .....50 ohms, nominal
Max signal ..... –3 dBm typ
Sensitivity ..... –96 dBm typ
Adjacent Channel Rejection .....35 dB typ
Digital output .....24 bit/48 kHz resolution

Audio output .....Stereo, 2.5 Vp-p

General

Power requirements .....AC 230 V, 50 Hz
Power consumption .....9 W (Standby: 3 W)
Dimensions (W x H x D) .....215 x 93 x 305 mm
Weight .....2.3 kg

Operating temperature .....+5˚C - +35˚C
Operating humidity.....5% to 85% (no condensation)
Storage temperature .....–20˚C - +55˚C

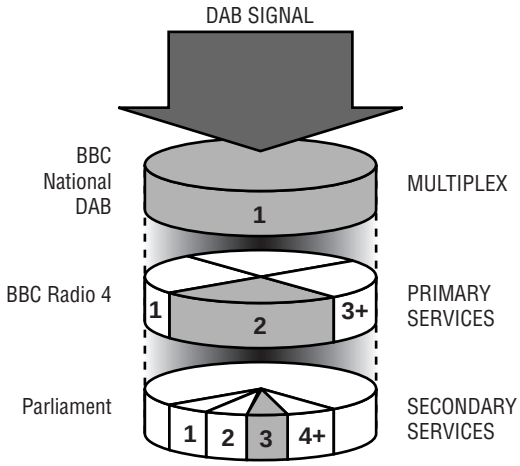
Accessories .....AM loop antenna x 1
FM Lead-type antenna x 1
DAB antenna x 1
RCA pin cable x 1

- Design and specifications are subject to change without notice.
- Weight and dimensions are approximate.

About DAB

With this unit you can receive and listen to Digital Audio Broadcast (DAB) programmes. DAB uses digital, not analogue signals, resulting in near CD-quality audio with virtually interference-free reception. Along with superior quality audio, DAB can also deliver additional audio channels and text. In the future, computer data and images are also possible.

Digital radio is broadcast as groups of data called ensembles or multiplexes. Each multiplex can contain a number of stations (services) and each station contains a primary service and can contain secondary services as illustrated in the following diagram.

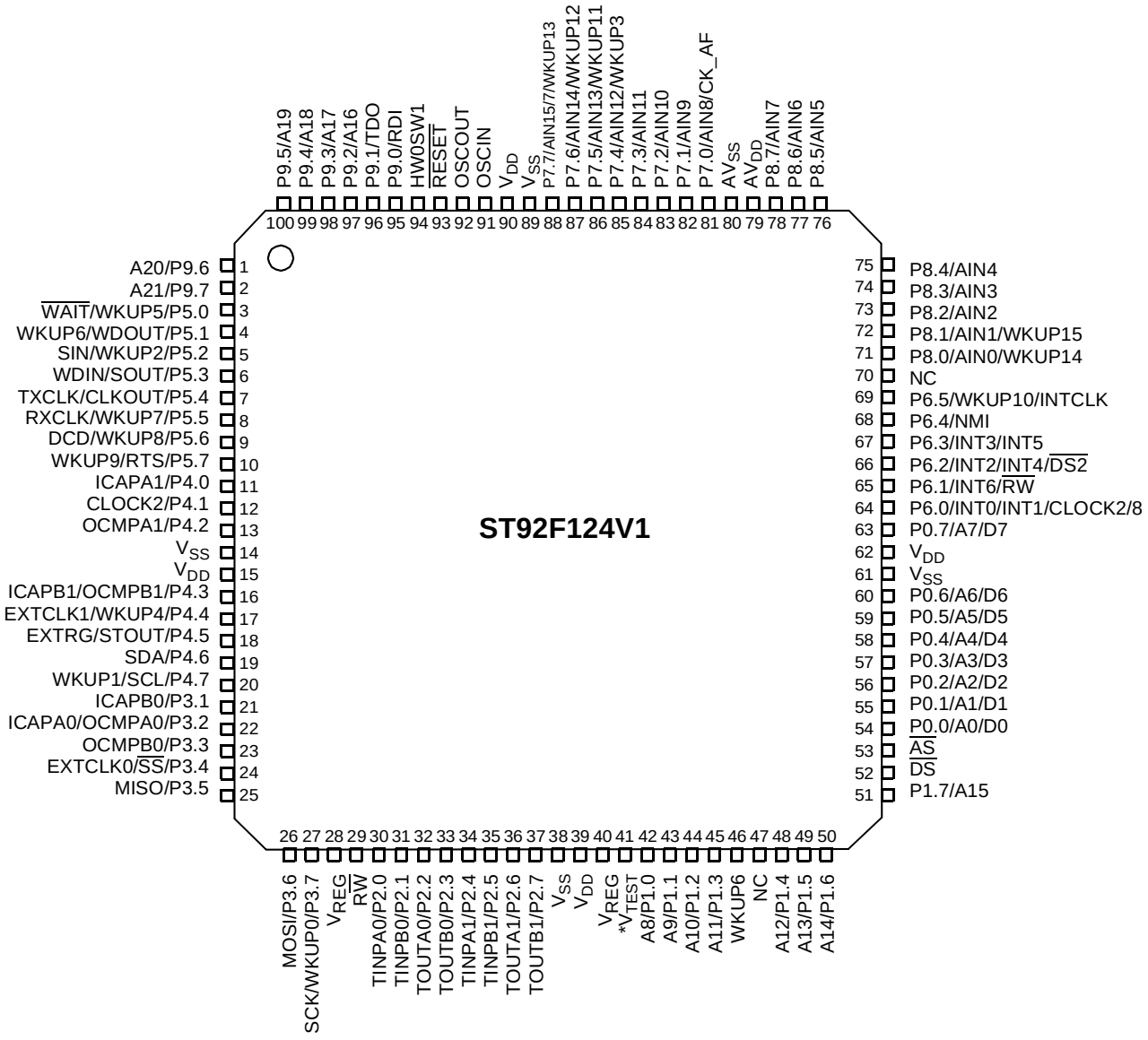


Each multiplex is transmitted in a set frequency range and received by this unit for decoding. You can receive multiplexes broadcast in the 174–240 MHz frequency band and store the services in each multiplex for you to access. The number of multiplexes you receive depend on your location. Channels used in the UK are in the range 10A to 12D.

Multiplexes and stations have labels (names) that are used to identify them. Instead of needing to know the particular frequency of your favourite broadcast, you can simply select the station name. Secondary services and additional data such as text or multiplex info are also available.

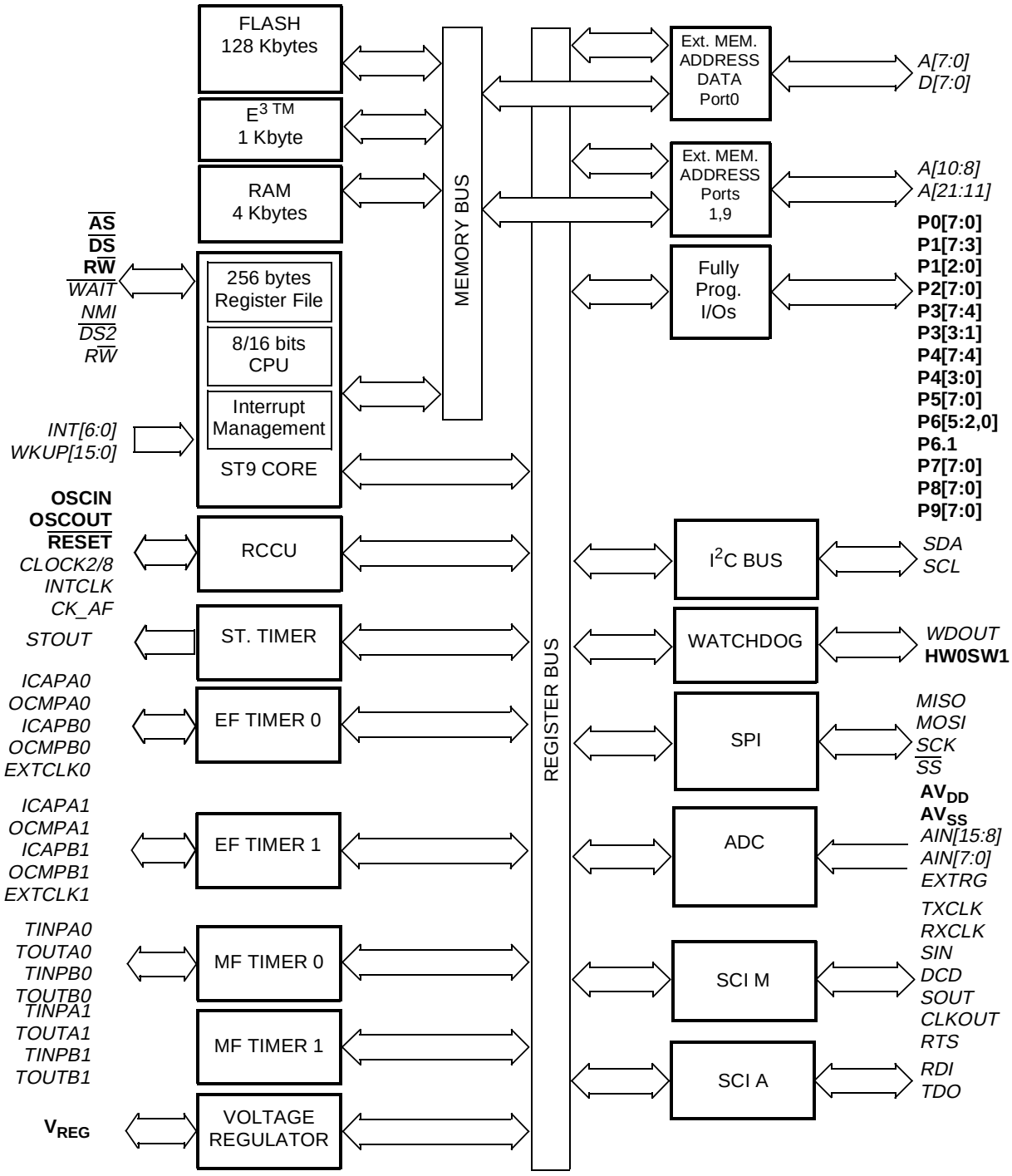
2 MICROCOMPUTER PIN FUNCTIONS

2-1 Pin Assignment



* V_{TEST} must be kept low in standard operating mode.

2-2 Block Diagram



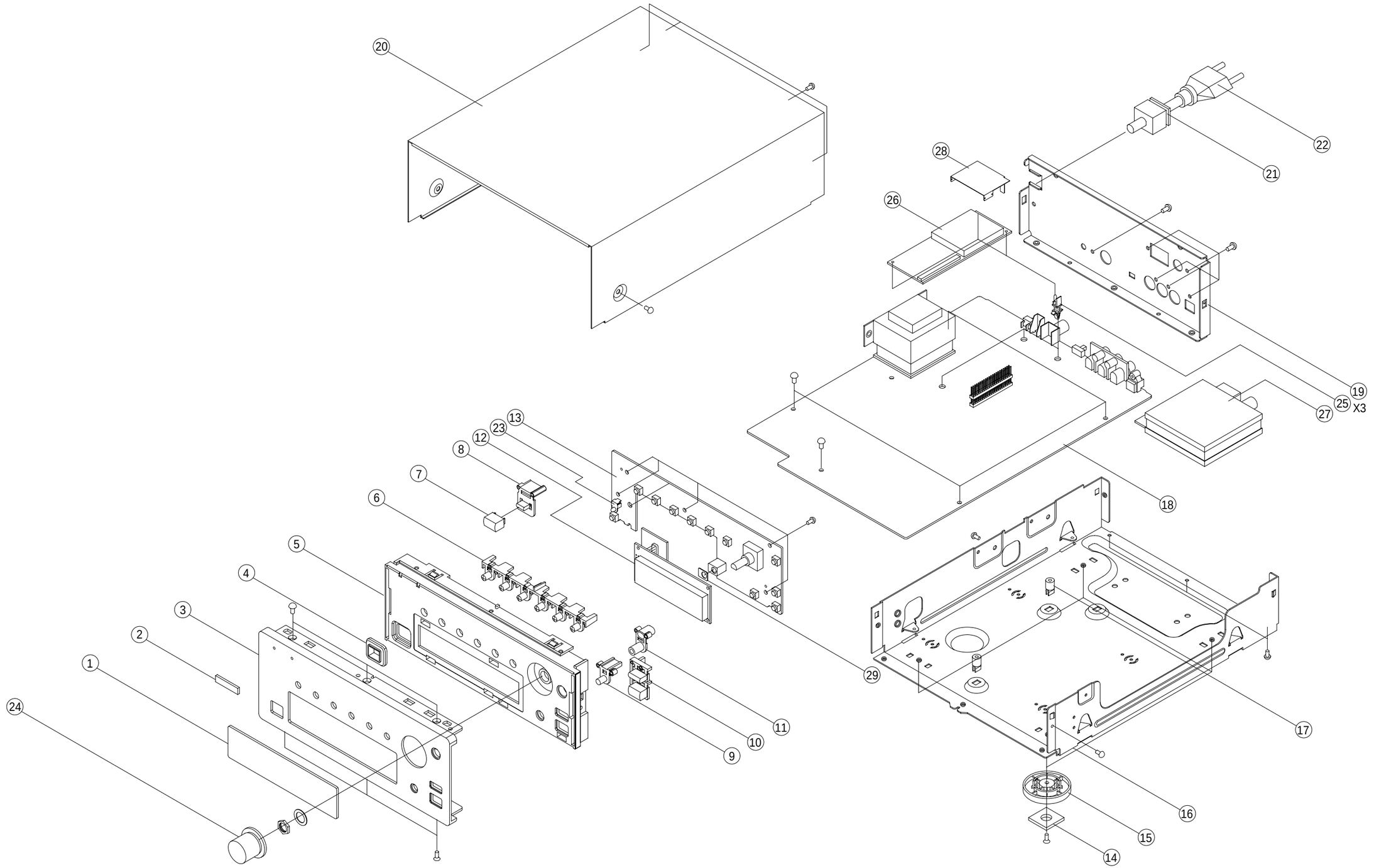
The alternate functions (*Italic characters*) are mapped on Port 0, Port 1, Port2, Port3, Port4, Port5, Port6, Port7, Port8 and Port9.

2-3 Pin Functions

PIN No.	NAME	I/O	DESCRIPTION
1	POWER_ON	O	Unit turn on control port ("L")
2	DAB_ON	O	DAB on control port ("L")
3	FM/AM_ON	O	FM/AM on control port ("L")
4	STAND_BY	O	Standby on control port ("L")
5	PLL_DATA	O	PLL_ Data output port
6	PLL_CLK	O	PLL_ Clock control port
7	PLL_CE	O	PLL_Chip Enable control port
8	PLL_DIN	I	PLL Data input port
9	FM/AM_MUTE	O	FM/AM MUTE control port ("L")
10	TUNED	I	Tuner module tuned control port
11	STEREO	I	Tuner module stereo control port
12	REAL_TIME_DATA	I	Real time Data port
13	REAL_TIME_CLK	I	Real time Clock Input port
14	VSS_1	-	GND
15	VDD_1	-	Power supply port (+5V)
16	RTC_OUT	O	Real time Clock Outport port
17	NC		
18	DAB_DIN	I	DAB Data input port
19	DAB_DOUT	O	DAB Data output port
20	DAB_CK_OUT	O	DAB Clock output port
21	DAB_CK_IN	I	DAB Clock Input port
22~25	NC		
26	RS_P	O	Register selection port
27	WRITE_ENABLE_P	O	Write enable port
28,29	NC		
30	READ_ENABLE_P	O	Read enable port
31~37	NC		
38	VSS_2	-	GND
39	VDD_2	-	Power supply port (+5V)
40	VREG2	-	
41	V TEST	-	For Flash test purposes port ("GND")
42~44	COB0~COB2		FIP Data output port
45,46	NC		
47~51	COB3~COB7		FIP Data output port
52~59	NC		
60	RDS_DATA	I	RDS Data input port
61	VSS_3	-	GND
62	VDD_3	-	Power supply port (+5V)
63	BUS_OUT	O	BUS output port
64	BUS_IN	I	BUS input port
65	REMOTE_IN	I	Remote unit data input port
66	RDS_CLOCK	O	RDS Clock control port
67	BACK_UP	I	BACK_UP mode control port ("L")
68~71	NC		
72	KEY 1	I	Key 1 control port
73	KEY 2	I	Key 2 control port

PIN No.	NAME	I/O	DESCRIPTION
74	SCROLL_UP	I	Scroll up control port
75	SCROLL_DN	I	Scroll down control port
76~78	OPTION	-	GND
79	VDD_4	-	Power supply port (+5V)
80	VSS_4	-	GND
81	REMOTE_SELECT	I	System/Single Remote select port
82~88	NC		
89	VSS_5	-	GND
90	VDD_5	-	Power supply port (+5V)
91	X _ IN	I	Oscillator input port
92	X _ OUT	O	Oscillator output port
93	RESET	I	Reset input port ("L")
94	VDD		The software watchdog option port.
95~99	NC		
100	SYSTEM_MUTE	O	System Mute control port ("L")

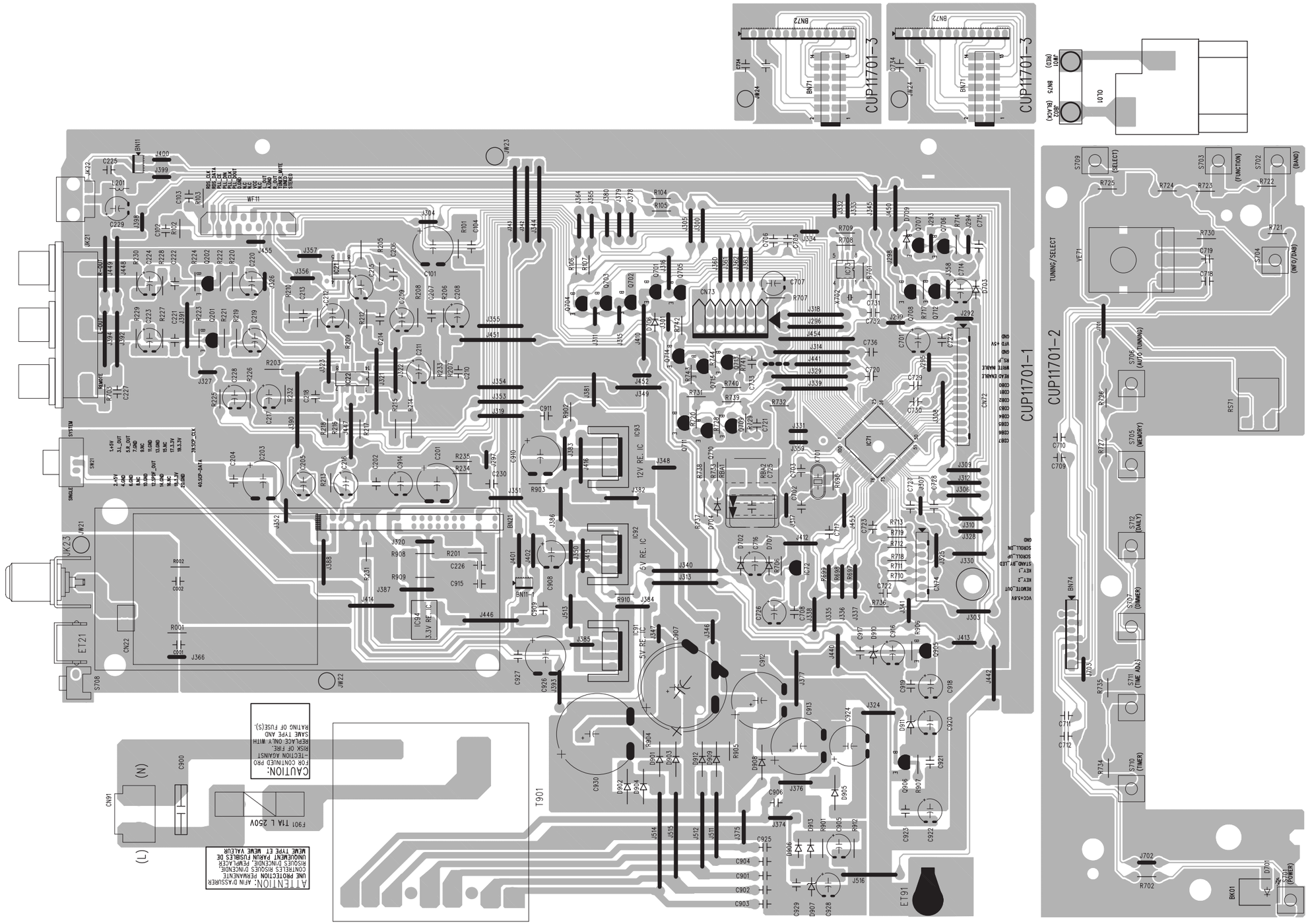
3 EXPLODED VIEWS AND PARTS LIST



EXPLODED VIEW LIST

REF.NO.		PARTS NO.	DESCRIPTION	REMARKS
1		CGU1A154W	WINDOW	
2		KGB1A047Z	BADGE,TEAC	
3		CKM1A151YC35	PANEL,FRONT	
4		CGL1A133	INDICATOR,STAND BY	
5		CGW1A387M7G5	PANEL,SUB	
6		CBT1A944M7G5	KNOB,TACT	
7		CBT1A495M7G5	CAP,STAND BY	
8		CBT1A483	KNOB,STAND BY	
9		CBT1A484M7G5	KNOB,DIRECT	
10		CBT1A531M7XG5	KNOB,FM MODE	
11		CBT1A491M7G5	KNOB,RDS	
12		HFL16T202DA1E	VFD,MODULE	
13		COP11701B	PCB ASSY,DAB	
14		KHG1A050Y	CUSHION,FOOT	
15		CKL2A055H45	FOOT	
16		CUA1A158	CHASSIS,BOTTOM	
17		CHE1A023	MOUNT,PCB	
18		COP11701B	PCB ASSY,DAB	
19		CKF1A283Z	PANEL,REAR	
20		CKC1B089S35	CABINET,TOP	
21	⚠	KHR1A028	BUSHING,AC CORD	
22	⚠	CJA2E045ZA	CORD,POWER	
23		CMD1A376	SUPPORT,LED	
24		HGK1A102ZA	INPUT KNOB ASSY	
25		CMH1A226	SUPPORT,PCB	
26		HNVFS2020VENICE	DAB,MODULE	
27		CNVMB114MA18L	TUNER MODULE(EUR)	
28		CMC1A253	PLATE,EARTH	
29		CGX1A304	SHEET,SENSOR	
F901	⚠	KBA2C1000TLEZ	FUSE	
		KJP14TT152ZY	PIN HEADER	
		CWC1C4A17B120B	CARD,CABLE	

4 PC BOARDS AND PARTS LIST



DAB PCB ASSY (GATHER)

REF.NO.		PARTS NO.	DESCRIPTION
		C0P11701B	PCB ASSY,DAB
		CUP11701Z	PCB,DAB MAIN
		CMC1A253	PLATE,EARTH
		CMD1A376	SUPPORT,LED
BN21		CJP44TT153ZY	PIN HEADER
BN71		KJP14TT152ZY	PIN HEADER
C900	⚠	BCQE2E104KDE	C,LINE ACROSS 0.1UF 250V
C907	⚠	HCEA1CH103E	C,ELECT 10000UF 16V
C912	⚠	HCEA1EH222E	C,ELECT 2200UF 25V
C913	⚠	HCEA1CH102E	C,ELECT 1000UF 16V
C924	⚠	HCEA1CH471T	C,ELECT 470UF 16V
CN22		KJP02TT155ZY	PIN HEADER
CN72		KJP14GA19ZM	WAFER
CN73		KJP07HA37ZM	WAFER
CN74		KJP08GA19ZM	WAFER,MOLEX53014-0810
CN91		KJP02KA060ZY	WAFER
D701		HVD342YCTB7T089	LED,YELLOW,SLR342YCTB7
D702		HVD1SS133MT	DIODE,1SS133T-77
D703		HVD1SS133MT	DIODE,1SS133T-77
D704		HVD1SS133MT	DIODE,1SS133T-77
D706		HVD1SS133MT	DIODE,1SS133T-77
D707		HVD1SS133MT	DIODE,1SS133T-77
D709		HVD1SS133MT	DIODE,1SS133T-77
D901	⚠	KVD1N4003ST	DIODE,1N4003
D902	⚠	KVD1N4003ST	DIODE,1N4003
D903	⚠	KVD1N4003ST	DIODE,1N4003
D904	⚠	KVD1N4003ST	DIODE,1N4003
D905	⚠	KVD1N4003ST	DIODE,1N4003
D906		HVD1SS133MT	DIODE,1SS133T-77
D907		HVDMTZJ4.7BT	DIODE,ZENER,MTZJ4.7B
D908	⚠	KVD1N4003ST	DIODE,1N4003
D909	⚠	KVD1N4003ST	DIODE,1N4003
D910		HVDMTZJ6.2BT	DIODE,ZENER,MTZJ6.2B
D911		HVDMTZJ6.2BT	DIODE,ZENER,MTZJ6.2B
D912	⚠	KVD1N4003ST	DIODE,1N4003
D913		HVD1SS133MT	DIODE,1SS133T-77
ET21		CMD1A387	BRACKET,PCB
ET91		CNE75	PLATE,EARTH
F901		KJCFC5S	HOLDER,FUSE
IC21		HVINJM2068MDTE1	IC,NJM2068MD-TE1
IC22		BVI74HC4066D	IC,74HC4066D
IC71		HVIST92F124V1T6	IC,ST92F124V1T6
IC72		HVIRE5VL28CATZ	IC,RE5VL28CATZ
IC73		HVIDS1307Z	IC,DS1307Z
IC91		CMY2A048	HEAT SINK
IC91	⚠	HVIKA78R05	IC,KA78R05TU
IC92		CMY2A048	HEAT SINK
IC92	⚠	HVIKA78R05	IC,KA78R05TU
IC93	⚠	HVIKA78R12	IC,KA78R12TU
IC94	⚠	HVIRC1117ST	IC,RC1117ST
JK21		CJJ4S003X	TERMINAL,RCA JACK
JK22		HJST0TX179L	MODULE,OPTICAL,T0TX179L
JK23		CJJ3G012Z	ANT,TEMINAL
L201		HLQ02C2R7KT	COIL,2.7UH K
Q201		HVTKTC2874BT	TR,KTC2874B

DAB PCB ASSY (GATHER)

REF.NO.		PARTS NO.	DESCRIPTION
Q202		HVTKTC2874BT	TR,KTC2874B
Q701		HVTKRA107MT	TR,KRA107M
Q702		HVTKRA107MT	TR,KRA107M
Q703		HVTKRA107MT	TR,KRA107M
Q704		HVTKRA107MT	TR,KRA107M
Q705		HVTKRA107MT	TR,KRA107M
Q706		HVTKRC107MT	TR,KRC107M
Q707		HVTKRA107MT	TR,KRA107M
Q708		HVTKRC107MT	TR,KRC107M
Q709		HVTKRC107MT	TR,KRC107M
Q710		HVTKRC107MT	TR,KRC107M
Q711		HVTKRC107MT	TR,KRC107M
Q712		HVTKRA107MT	TR,KRA107M
Q905	⚠	HVTKTC3198YT	TR,KTC3198Y
Q906	⚠	HVTKTA1266YT	TR,KTA1266Y
RBA1		HABGP40BVH3A3H	BATTERY,RECHARGEABLE
RS71		KRVHIM602H32	SENSOR,REMOCON
S701		HST1A016Z	SW,TACT,SKQNAED010
S702		HST1A016Z	SW,TACT,SKQNAED010
S703		HST1A016Z	SW,TACT,SKQNAED010
S704		HST1A016Z	SW,TACT,SKQNAED010
S705		HST1A016Z	SW,TACT,SKQNAED010
S706		HST1A016Z	SW,TACT,SKQNAED010
S707		HST1A016Z	SW,TACT,SKQNAED010
S709		HST1A016Z	SW,TACT,SKQNAED010
S710		HST1A016Z	SW,TACT,SKQNAED010
S711		HST1A016Z	SW,TACT,SKQNAED010
S712		HST1A016Z	SW,TACT,SKQNAED010
SW21		KSS2B016Z	SW,SLIDE
T901	⚠	CLT5M026ZE	TRANS,POWER
VE71		HSR2A006Z	VR,ENCODER,EC16B1220408A
WF11		KJP17GA115ZG	WAFER,CARD CABLE
X701		HOX04000E150C	CRYSTAL,4MHZ
X702		HOX00032K120I	CRYSTAL,32.768KHZ

5 INCLUDED ACCESSORIES

INCLUDED ACCESSORIES

REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
	CQX1A921Z	OWNER'S MANUAL	
	CJS4M016Z	CORD,PIN(1WAY)	
	CJS4N014Z	CORD,PIN	
	CSA1A018Z	FM 1 POLE ANT	
	CSA1A020Z	AM LOOP ANT	
	CSA272	ANT,DAB T	

TEAC BLOCK DIAGRAM T-H300DABmkII

FM
ANTENNA
AM

FM FRONT END
AM ANT /OSC
FM/AM IF
MPX
RDS FILTER
AMP
MUTE
P L L
TUNER MODULE

R-OUT
L-OUT

DAB RF +5V
VFD +5V
TUNER +12V
REGULATOR
REGULATOR
POWER TRANS
AC 230V/50Hz
+5.6V
-5.6V
UNSWITCH

INPUT
OUTPUT
REGULATOR 3.3V

DAB MODULE
DAB ANT

REMOTE SENSOR
REAL TIME CLOCK
KEY SCAN

DAB ON

u-COM(CPU)
HVIST92F124V1T6
IC71

+5.6V UNSWITCH
TUNER MODULE
VFD
DAB MODULE

R-CH
AUDIO OUT
R-CH
L-CH
REMOTE OUT
IC22 74HC4066
-VSS -5V
+VDD +5V
L-CH

IC21 NJM2068
-VSS -5V
+VSS +5V

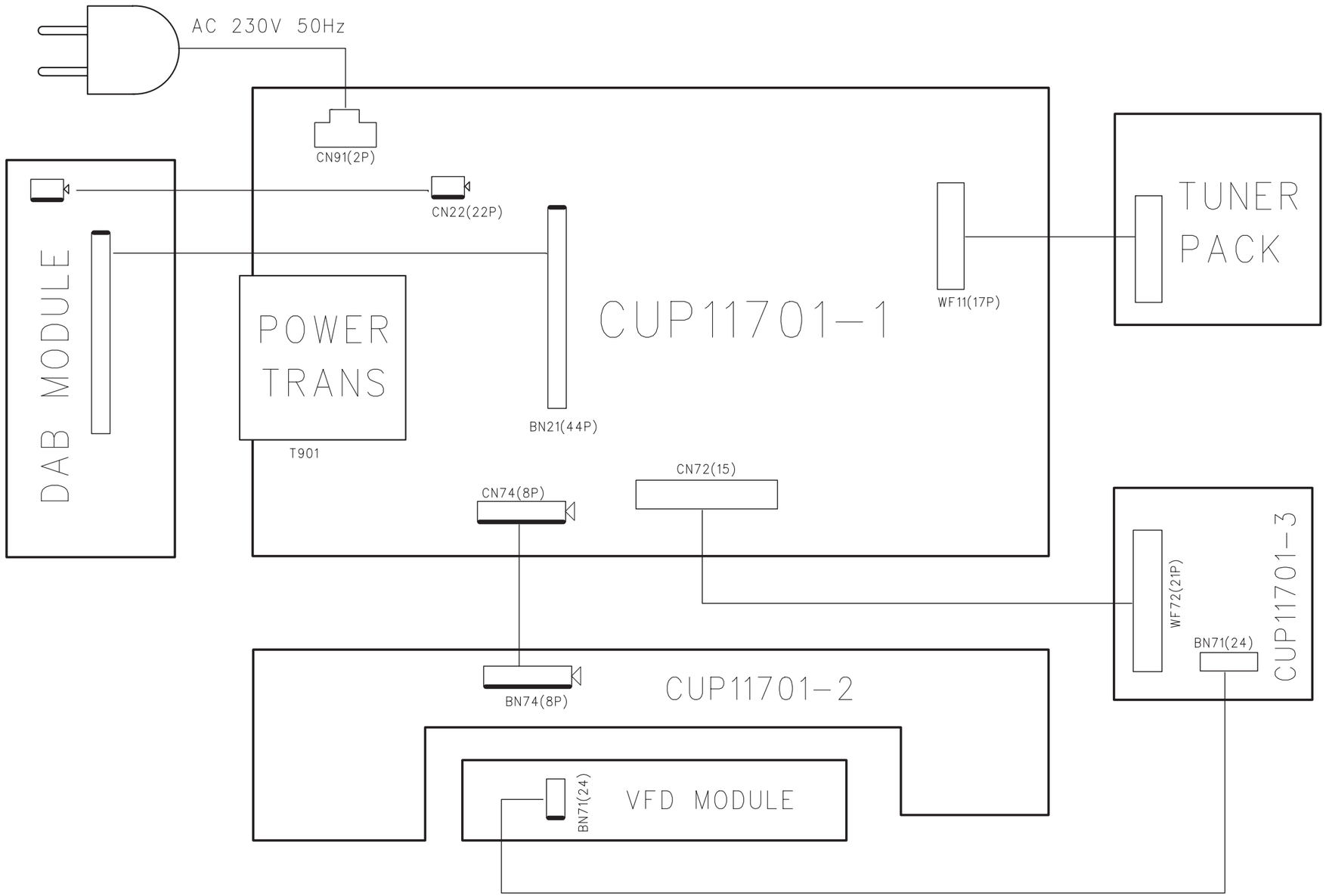
FM/AM ON
REMOTE OUT

DIGITAL OUT
VCC
SPDIF OUT

T-H300DABmkII

DAB/AM/FM Stereo Tuner

1 st Issue; July 2004

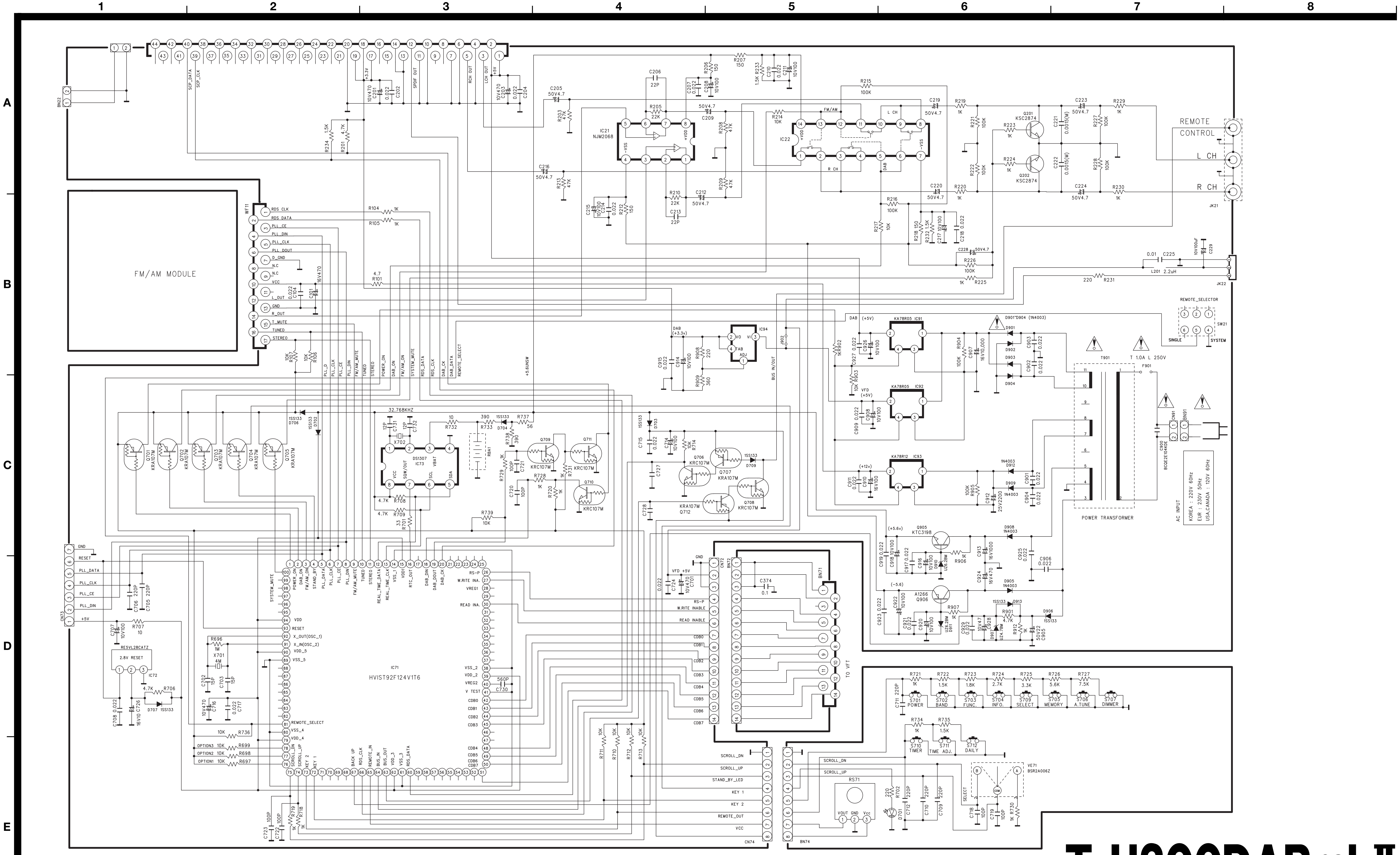


T-H300DABmkⅡ

DAB/AM/FM Stereo Tuner

1 st Issue; July 2004

TEAC SCHEMATIC DIAGRAM T-H300DABmkⅡ



NOTES:

1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. ⚠Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

T-H300DABmkⅡ

DAB/AM/FM Stereo Tuner

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