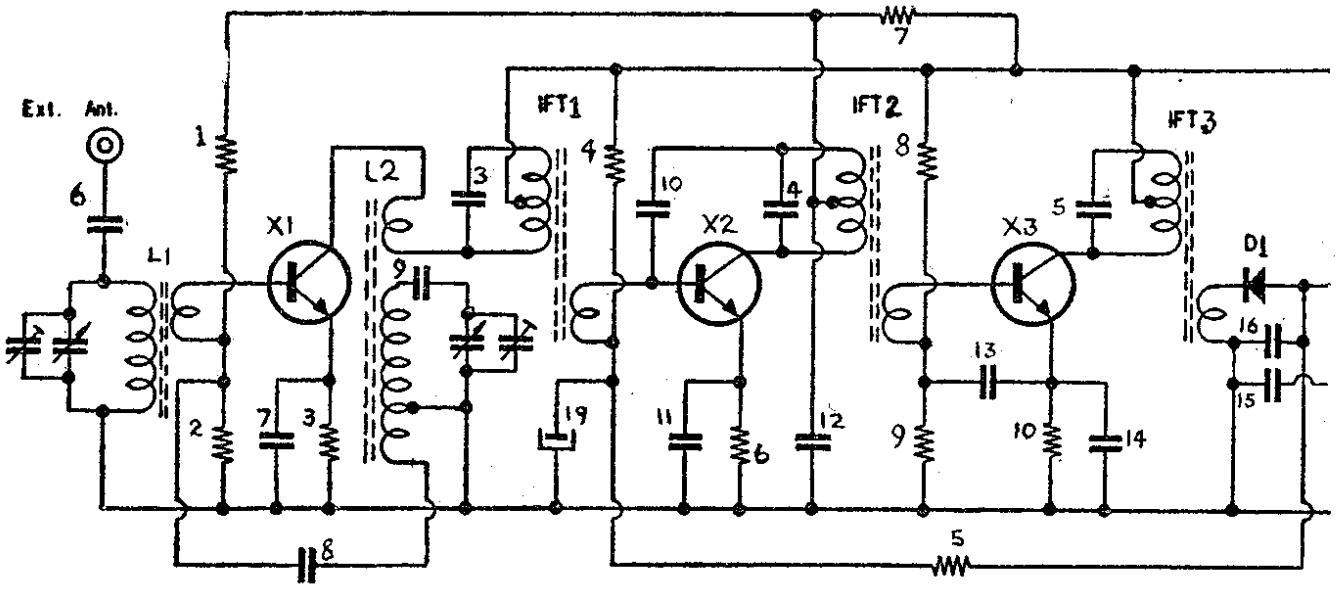
SONY

Also TR623
TRW621



CIRCUIT DIAGRAM—

General Description: Six-transistor (plus crystal diode), single-band transistor personal receiver with built-in watch and time switch. Provision for earphone and for external aerial.

Power Supply: 9-volt battery (BL–006P, PP3 or equivalent). Consumption 6 mA. at zero signal, 30 mA. at 120 mW. output.

Waveband: M.W. 535–1605 kc/s.

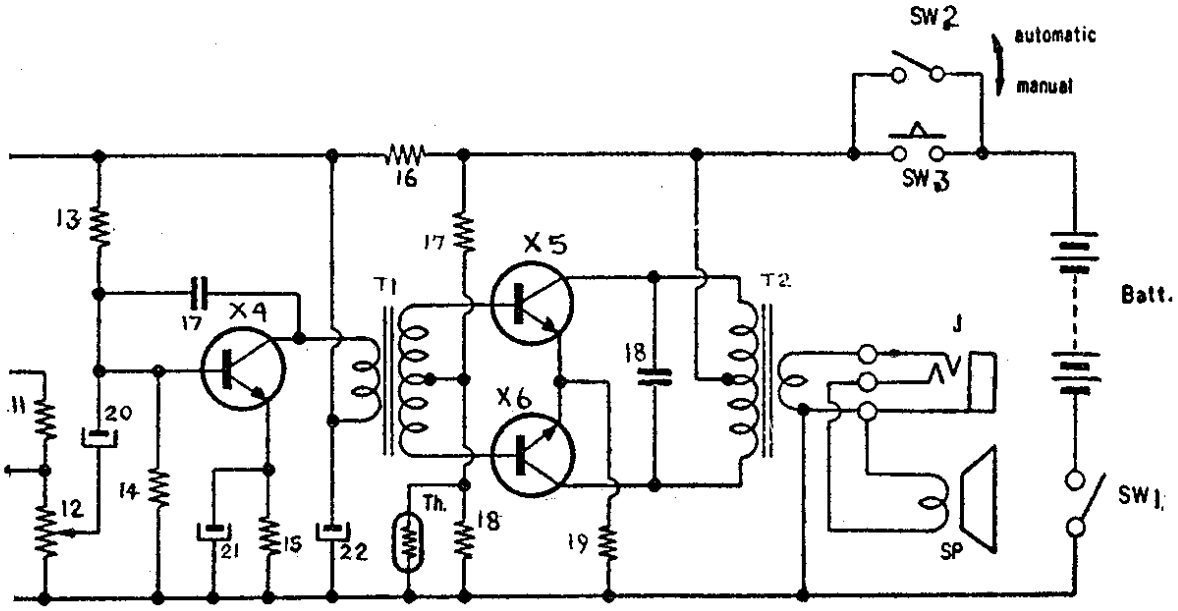
Transistor Analysis: Note that transistors are *n-p-n* types requiring reverse polarity to the more common *p-n-p* types. Following measurements at zero signal current.

Transistor		*Function*	*Emitter Voltage*	*Collector Current*
X1	2SC–73 . . .	Freq. changer	2·85 –3·75	190–250 μA.
X2	2SC–76 . . .	1st I.F.	0·145–0·18	310–390 μA.
X3	2SC–76 . . .	2nd I.F.	0·26 –0·32	550–680 μA.
X4	2SD–64 . . .	Driver	1·65 –2·1	1·1–1·4 mA.
X5, 6	2SD–65 . . .	Output	0·008–0·015	0·8–1·5 mA.

Crystal diode, D1, type 1T23G

Dismantling: To remove circuit board: open rear cover; remove three screws on circuit board, one at centre and two beside the tuning capacitor. To remove watch: remove battery; remove retaining post for rear cover screw; remove nut on right top corner; remove battery partition (white plastic); remove two screws and disconnect red lead wires; take out watch. If watch is out of order, makers suggest that no attempt should be made to open it but instead it should be replaced.

Circuit Notes: This receiver uses a similar A.G.C. circuit to that described in the 1961–62 volume for Model TR620 and the alignment frequencies are also similar.



SONY MODEL TRW621

	Capacitors.					*Component values for Model TR623 which differ from TRW621.*			
C3	150 pF.	C16	0·02	R6	470	C9	omitted	R3	3·3k
C4	150 pF.	C17	100 pF.	R7	10k	C17	omitted	R4	110k
C5	150 pF.	C18	0·04	R8	39k	C18	0·04	R5	15k
C6	5 pF.	C19	10 (El. 3 v.)	R9	3·3k	C20	0·5 (El.)	R6	330
C7	0·005	C20	0·3	R10	470	C21	10	R7	3·9k
C8	0·005	C21	30 (El. 3 v.)	R11	220	C22	2 pF. (across oscillator tuning capacitor.)	R8	18k
C9	130 pF.	C22	30 (El. 10 v.)	R12	5k	R1	7·5k	R10	330
C10	1 pF.			R13	27k	R2	10k	R13	9·1k
C11	0·02		*Resistors.*	R14	10k			R14	2·2k
C12	0·01	R1	10k	R15	1·5k			R15	180
C13	0·01	R2	100k	R16	220			R16	33
C14	0·01	R3	15k	R17	7·5k			R17	3·9k
C15	0·01	R4	150k	R18	220			R19	3
		R5	5·6k	R19	10				

Model TR623: The circuit diagram for this receiver is similar to Model TRW621 except for a number of component value changes and the omission of the time switch facility. Four 1·5-volt pen light batteries. Voltage and current readings also differ:

Transistor		*Function*	*Emitter Voltage*	*Collector Current*
X1	2SC–73	Freq. changer	0·59–0·86	180–260 μA.
X2	2SC–75	1st I.F.	0·18–0·23	550–600 μA.
X3	2SC–76	2nd I.F.	0·23–0·30	700–900 μA.
X4	2SD–64	Driver	0·32–0·43	1·8–2·4 mA.
X5, 6	2SD–65	Output	—	0·7–1·2 mA.

Crystal diode type 2T23G