

Service Manual

**CIRCUIT DESCRIPTIONS
REPAIR & ADJUSTMENTS**



The photo shows the silver version of DT-570.

**ORDER NO.
ARP 1119-0**

AUDIO DIGITAL TIMER

DT-570(BK)

DT-570

DT-570 (BK) is Black versions of DT-570.

MODEL DT-570 (BK) AND DT-570 COMES IN FIVE VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Applicable model		Power requirement	Distination
	DT-570 (BK)	DT-570		
NEM	○	○	AC 220V only	European continent
KU	○	—	AC120V only	U.S.A.
S	○	—	AC110V, 120V, 220V, 240V (switchable)	General market
S/G	○	—	AC110V, 120V, 220V, 240V (switchable)	U.S. Military
YB	○	○	AC240V only	United Kingdom

- This service manual is applicable to the NEM type.
- As to the KU, S, S/G and YB, please refer to the additional service manual (ARP1143).

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1. SPECIFICATIONS

Time display	Digital display with fluorescent display tube
Timer type	24-hour type (24-hour display)
Timer setting	Only one ON/OFF time setting in minimum units of minutes within a 24-hour period
Sleep timer	Setting in minimum units of minutes up to 1 hour 59 minutes
Time accuracy	Synchronized with line frequency
Timer accuracy	Within + 0.1 sec. of time displayed
Sleep timer accuracy	Within - 59 sec. of set time

Power section, others

Power requirements . . NEM model; a.c. 220 volts~, 50Hz
YB model; a.c. 240 volts~, 50 Hz

AC outlet capacity power. NEM model; 500 W max.
(inductive load)
YB model, 1000 W max.(inductive load)
Power consumption 6 W

Other functions

- AC OUTLET "on" display (red LED lights)
- Timer operation display (green LED lights)
- Power failure display (time display winks)

Dimensions 420 (W) x 52 (H) x 142 (D) mm
16-9/16 (W) x 2-1/16 (H) x 5-11/16 (D) in
Weight 1.7 kg (3 lb 12 oz)

Accessories

Operating Instructions (English/German/French/Italian) 1

NOTE:

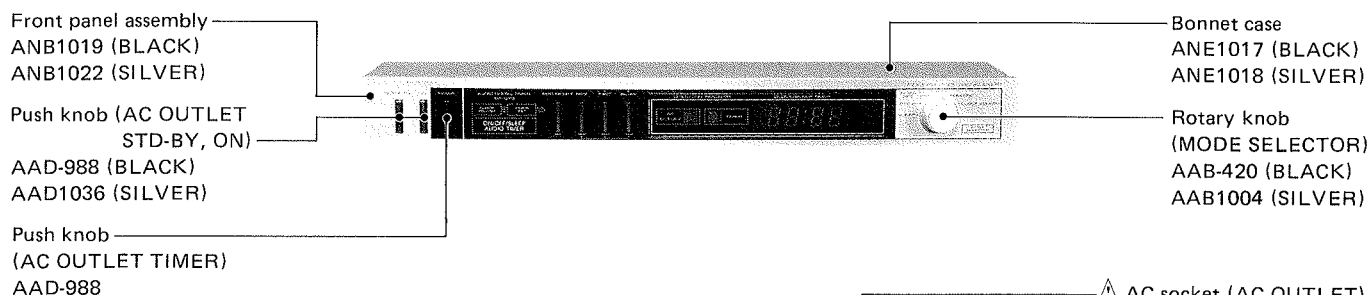
Specifications and design are subject to possible modification without notice due to improvements.

2. PARTS LOCATIONS

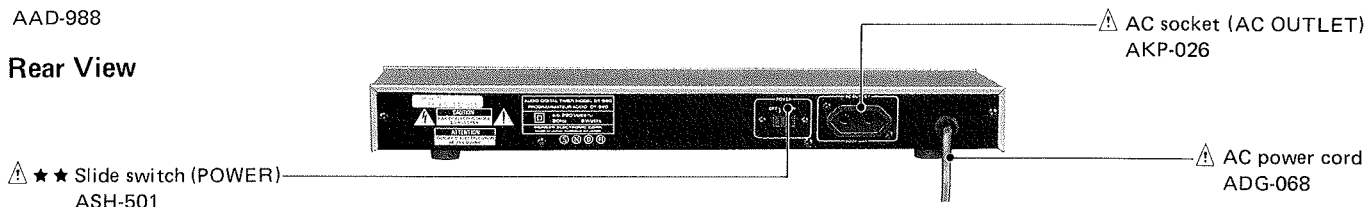
NOTES:

- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks $\star\star$ and \star .
 $\star\star$ GENERALLY MOVES FASTER THAN \star
This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts marked by " \odot " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

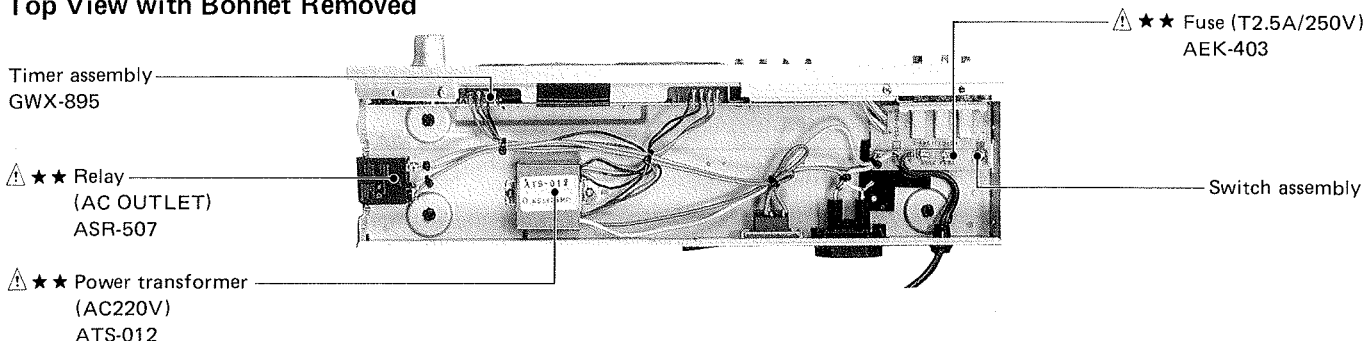
Front View



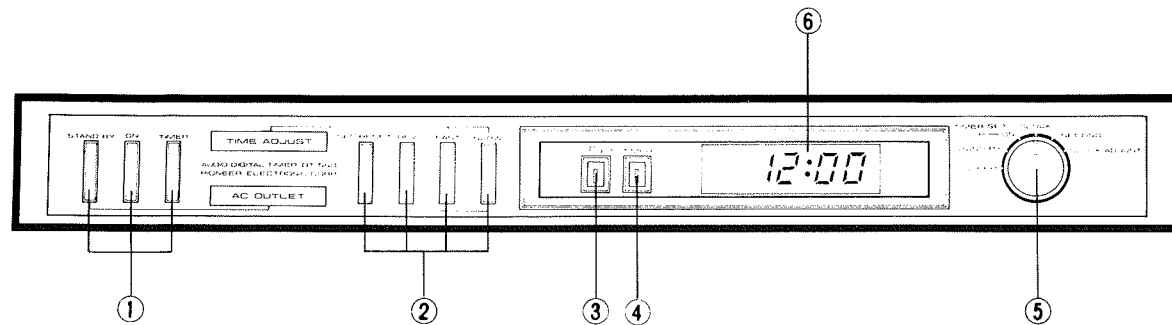
Rear View



Top View with Bonnet Removed



3. FRONT PANEL FACILITIES



① AC OUTLET SELECTORS

These switch on and off the power flowing to the rear panel AC OUTLET.

STAND-BY: Used to switch off the power of the connected audio components regardless of the timer operation (set times).

ON: Used to switch on the power of the connected audio components regardless of the timer operation (set times).

TIMER: Used to switch ON and OFF the power of the connected audio components with the timer operation.

② TIME ADJUST SWITCHES

These are used to adjust the time/displayed times in line with the setting of the mode selector.

SEC RESET: When this switch is depressed with the mode selector in the SECOND position, the second display of the present time is reset to 0:00 and when released the seconds are counted up from 0:00 → 0:01 → 0:02 → etc., and the rightmost minute digit and seconds are displayed.

REV: When the FAST or SLOW switch is depressed while this switch is in the depressed position, the displayed time is reversed rapidly or slowly. (This function does not work when the sleep timer function is set.)

FAST: When this switch is depressed, the displayed time is forwarded rapidly.

SLOW: When this switch is depressed, the displayed time is forwarded slowly.

③ AC OUTLET INDICATOR (red)

This lights when power is being supplied to the AC OUTLET on the rear panel.

④ TIMER INDICATOR (green)

This lights when the AC OUTLET-TIMER selector is depressed.

⑤ MODE SELECTOR

This is used to select the timer's function.

SLEEP: Used to set the operating time (1 minute to 1 hour 59 minutes) until the power of the audio components operating is to be set OFF.

TIMER SET-STAND-BY:

Used to set the time at which the power to the connected audio components is set OFF.

TIMER SET-ON:

Used to set the time at which the power to the connected audio component is set ON.

CLOCK:

Used to display the present time (hours & minutes).

SECOND:

Used to adjust the seconds of the present time and check the seconds of the present time.

CLOCK ADJUST:

Used to adjust the clock to the present time.

⑥ TIME DISPLAY

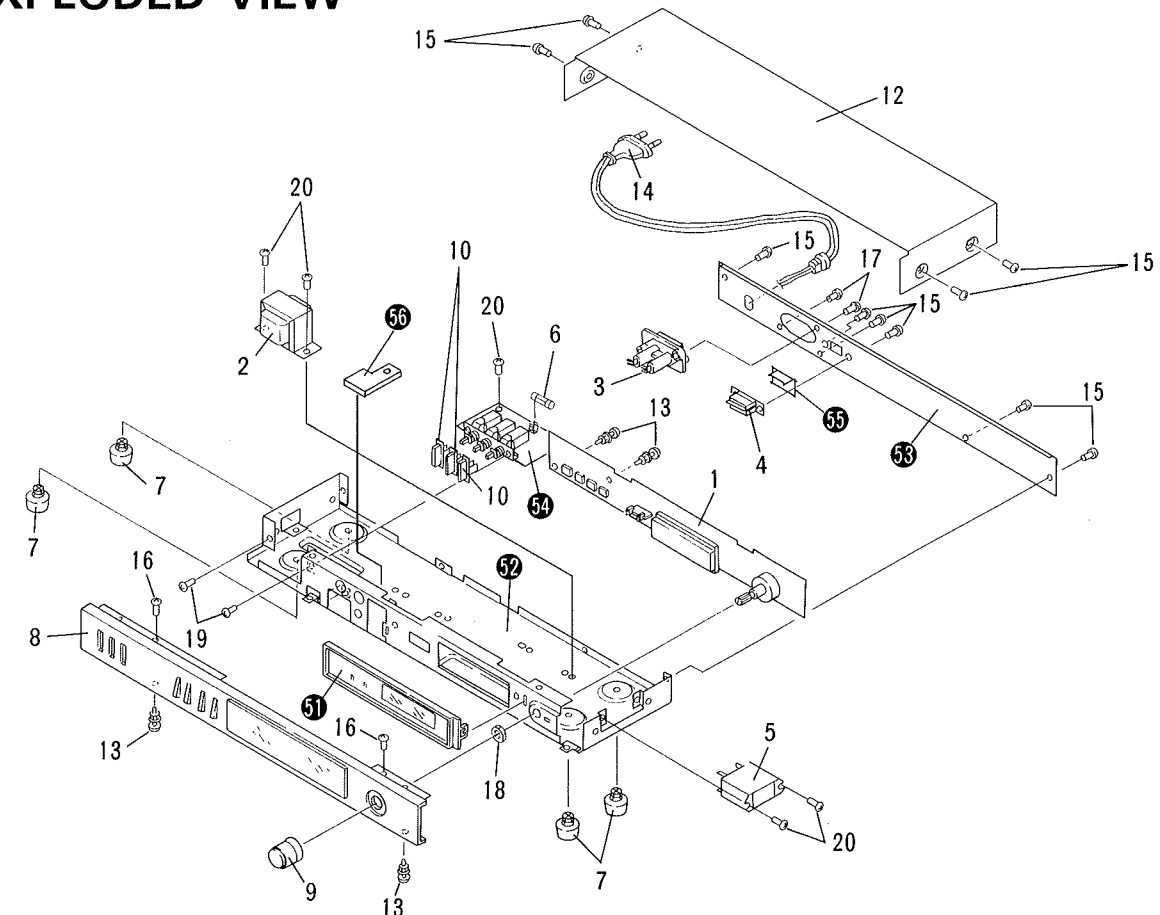
The time is displayed as it relates to the mode selector or TIME ADJUST switch settings in the following table.

Display	Example of display	Mode selector	TIME ADJUST switch
Time until sleep operation is due to go OFF.	1:30 1 hr 30 min.	SLEEP	FAST SLOW
Display of OFF time set by timer.	8:00	TIMER SET-STAND-BY	FAST SLOW REV
Display of ON time set by timer	7:30	TIMER SET-ON	FAST SLOW REV
Display of present time	17:38	CLOCK	—
Display of seconds and rightmost digit of present time minute	8:25 8 min. 25 sec.	SECOND	—
Display for adjusting seconds correctly of present time	5:00 5 min. 00 sec.		SEC RESET
Display for adjusting hours and minutes of present time	12:05	CLOCK ADJUST	FAST SLOW REV

NOTE:

When the unit's power plug is connected to a household AC outlet, the "0:00" time display will wink. It also winks when there has been a power failure while the unit was working and the power has been restored.

4. EXPLODED VIEW



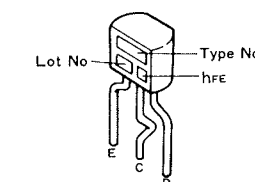
NOTES:

- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
- ★★ GENERALLY MOVES FASTER THAN ★
This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Parts List

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1.	GWX-895	Timer assembly		13.	AEC-510	Nylon rivet
Δ	★	2.	ATS-012	Δ	14.	ADG-068	AC power cord
Δ		3.	AKP-026		15.	BBT30P080FZK	Screw (BLACK)
			AC socket (AC OUTLET) (500W MAX)			ABA-274	Screw (SILVER)
Δ	★★	4.	ASH-501		16.	BCZ30P080FMC	Screw
Δ	★★	5.	ASR-507		17.	MTZ30P100FZK	Screw
			Slide switch (POWER, S7)				
Δ	★★	6.	AEK-403		18.	NK90FUC	Nut
		7.	AEC-903		19.	PMZ30P060FZB	Screw
		8.	ANB1019		20.	VBZ30P060FMC	Screw
			Front panel assembly (BLACK)				
			Front panel assembly (SILVER)				
		9.	AAB-420		51.		Sub Panel
			Rotary knob (MODE) (BLACK)		52.		Chassis
			Rotary knob (MODE) (SILVER)		53.		Rear panel
					54.		Switch assembly
		10.	AAD-988		55.		Switch spacer
			AAD1036				
			AAD-988				
		12.	ANE1017		56.		Insulation sheet
			Bonnet case (BLACK)				
			Bonnet case (SILVER)				

6. SCHEMATIC DIAGRAM



Appearance of Transistors and ICs

7. ELECTRICAL PARTS LIST

- NOTES:
- When ordering resistors, first convert resistance values into code form as shown in the following examples.
- Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).
- | | | | | | | | |
|------|------------------|----------|---------|---|---|---|---|
| 560Ω | 56×10^1 | 561..... | RD1/4PS | 5 | 6 | 1 | J |
| 47kΩ | 47×10^3 | 473..... | RD1/4PS | 4 | 7 | 3 | J |
| 0.5Ω | 0R5..... | | RN2H | 0 | 5 | | K |
| 1Ω | 010..... | | RSIP | 0 | 1 | 0 | K |
- Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
- | | | | | | | | | |
|--------|-------------------|-----------|---------|---|---|---|---|---|
| 5.62kΩ | 562×10^1 | 5621..... | RN1/4SR | 5 | 6 | 2 | 1 | F |
|--------|-------------------|-----------|---------|---|---|---|---|---|
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - For your parts Stock Control, the fast moving items are indicated with the marks $\star\star$ and \star .
 $\star\star$ GENERALLY MOVES FASTER THAN \star
This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
 - Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

MISCELLANEOUS PARTS

P.C. BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	Timer assembly	GWX-895
	Switch assembly	Non supply

OTHERS

Mark	Symbol & Description	Part No.
Δ $\star\star$	RL1 Relay (AC OUTLET)	ASR-507
Δ	AC power cord	ADG-068
Δ \star	T1 Power transformer (AC220V)	ATS-012
Δ $\star\star$	S7 Slide switch (POWER)	ASH-501
Δ	AC socket (AC OUTLET)	AKP-026
Δ $\star\star$	FU1 Fuse (T2.5A/250V)	AEK-403

TIMER ASSEMBLY (GWX-895)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
$\star\star$	Q1	MN6076
$\star\star$	Q2	2SD438/A/
$\star\star$	Q3	2SC2603/A/
\star	D1, D2	10E2
\star	D5 – D7, D9	1S1555 (US1035)
\star	D8	RD15EB (HZ15EB)
\star	D3 LED (AC OUTLET, RED)	AEL-422
\star	D4 LED (TIMER, GREEN)	AEL-421

SWITCHES

Mark	Symbol & Description	Part No.
$\star\star$	S2 – S5 Tact switch (TIME ADJUST, ADJUST, SEC. RESET, REV)	ASG-711
$\star\star$	S6 Rotary switch (MODE SELECTOR)	ASD-080

CAPACITORS

Mark	Symbol & Description	Part No.
	C1, C2	CEA101M35L
	C3	CEA221M16L
	C5	CEA470M10L
	C4	CEA470M50L
	C6, C7	CKDYB222K50
	C8	CCDSL101J50

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	R3	RD1/4PMFL220J
	Other resistors	RD1/4PM□□□J

OTHERS

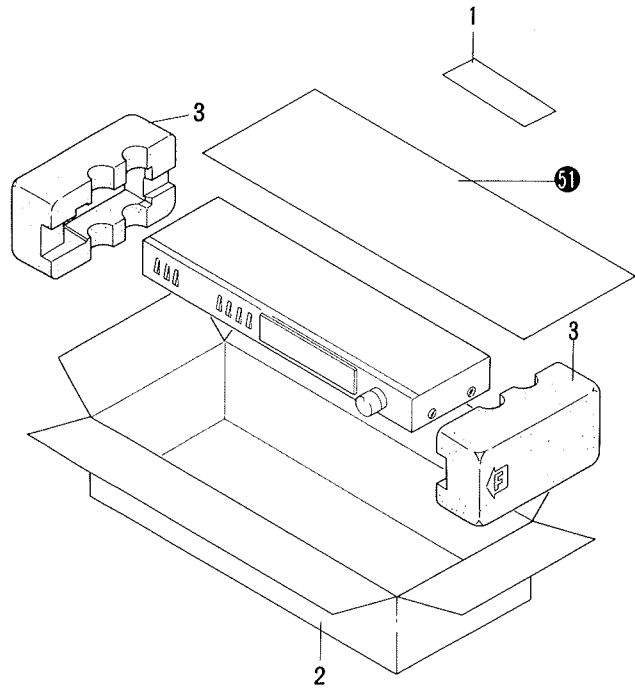
Mark	Symbol & Description	Part No.
\star	V1 Fluorescent tube	AAV-020

SWITCH ASSEMBLY

SWITCH

Mark	Symbol & Description	Part No.
$\star\star$	S1 Push switch (AC OUTLET)	ASG-318

8. PACKING



Parts List

Mark	No.	Part No.	Description
	1.	ARE1015	Operating instructions
	2.	ADH1050	Packing case (BLACK)
		ADH1059	Packing case (SILVER)
	3.	AHA-256	Side pad
	51.		Sheet

9. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

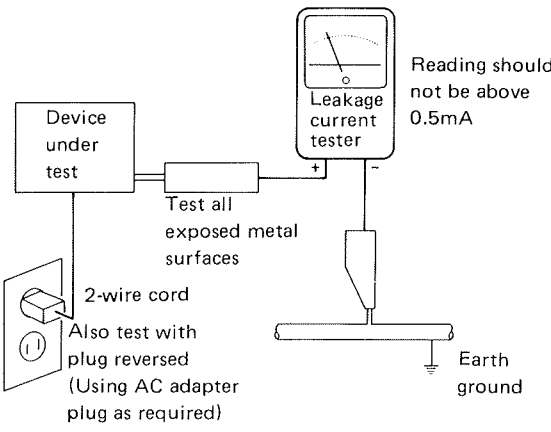
2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.



AC Leakage Test