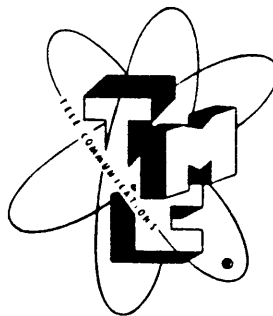


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UNCLASSIFIED

TECHNICAL MANUAL  
*for*

POWER SUPPLY, MODEL CPP-1  
(PP-2561/URA-31)



THE TECHNICAL MATERIEL CORPORATION  
MAMARONECK, N.Y.

OTTAWA, ONTARIO

★

Issue Date: 1 January 1962



# THE TECHNICAL MATERIEL CORPORATION

C O M M U N I C A T I O N S   E N G I N E E R S

700 FENIMORE ROAD

MAMARONECK, N. Y.

## Warranty

The Technical Materiel Corporation, hereinafter referred to as TMC, warrants the equipment (except electron tubes, \*fuses, lamps, batteries and articles made of glass or other fragile or other expendable materials) purchased hereunder to be free from defect in materials and workmanship under normal use and service, when used for the purposes for which the same is designed, for a period of one year from the date of delivery F.O.B. factory. TMC further warrants that the equipment will perform in a manner equal to or better than published technical specifications as amended by any additions or corrections thereto accompanying the formal equipment offer.

TMC will replace or repair any such defective items, F.O.B. factory, which may fail within the stated warranty period, PROVIDED:

1. That any claim of defect under this warranty is made within sixty (60) days after discovery thereof and that inspection by TMC, if required, indicates the validity of such claim to TMC's satisfaction.
2. That the defect is not the result of damage incurred in shipment from or to the factory.
3. That the equipment has not been altered in any way either as to design or use whether by replacement parts not supplied or approved by TMC, or otherwise.
4. That any equipment or accessories furnished but not manufactured by TMC, or not of TMC design shall be subject only to such adjustments as TMC may obtain from the supplier thereof.

Electron tubes furnished by TMC, but manufactured by others, bear only the warranty given by such other manufacturers. Electron tube warranty claims should be made directly to the manufacturer of such tubes.

TMC's obligation under this warranty is limited to the repair or replacement of defective parts with the exceptions noted above.

At TMC's option any defective part or equipment which fails within the warranty period shall be returned to TMC's factory for inspection, properly packed with shipping charges prepaid. No parts or equipment shall be returned to TMC, unless a return authorization is issued by TMC.

No warranties, express or implied, other than those specifically set forth herein shall be applicable to any equipment manufactured or furnished by TMC and the foregoing warranty shall constitute the Buyers sole right and remedy. In no event does TMC assume any liability for consequential damages, or for loss, damage or expense directly or indirectly arising from the use of TMC Products, or any inability to use them either separately or in combination with other equipment or materials or from any other cause.

\*Electron tubes also include semi-conductor devices.

### *PROCEDURE FOR RETURN OF MATERIAL OR EQUIPMENT*

Should it be necessary to return equipment or material for repair or replacement, whether within warranty or otherwise, a return authorization must be obtained from TMC prior to shipment. The request for return authorization should include the following information:

1. Model Number of Equipment.
2. Serial Number of Equipment.
3. TMC Part Number.
4. Nature of defect or cause of failure.
5. The contract or purchase order under which equipment was delivered.

### *PROCEDURE FOR ORDERING REPLACEMENT PARTS*

When ordering replacement parts, the following information must be included in the order as applicable:

1. Quantity Required.
2. TMC Part Number.
3. Equipment in which used by TMC or Military Model Number.
4. Brief Description of the Item.
5. The *Crystal Frequency* if the order includes crystals.

### *PROCEDURE IN THE EVENT OF DAMAGE INCURRED IN SHIPMENT*

TMC's Warranty specifically excludes damage incurred in shipment to or from the factory. In the event equipment is received in damaged condition, the carrier should be notified immediately. Claims for such damage should be filed with the carrier involved and not with TMC.

All correspondence pertaining to Warranty Claims, return, repair, or replacement and all material or equipment returned for repair or replacement, within Warranty or otherwise, should be addressed as follows:

THE TECHNICAL MATERIEL CORPORATION  
Engineering Services Department  
700 Fenimore Road  
Mamaroneck, New York

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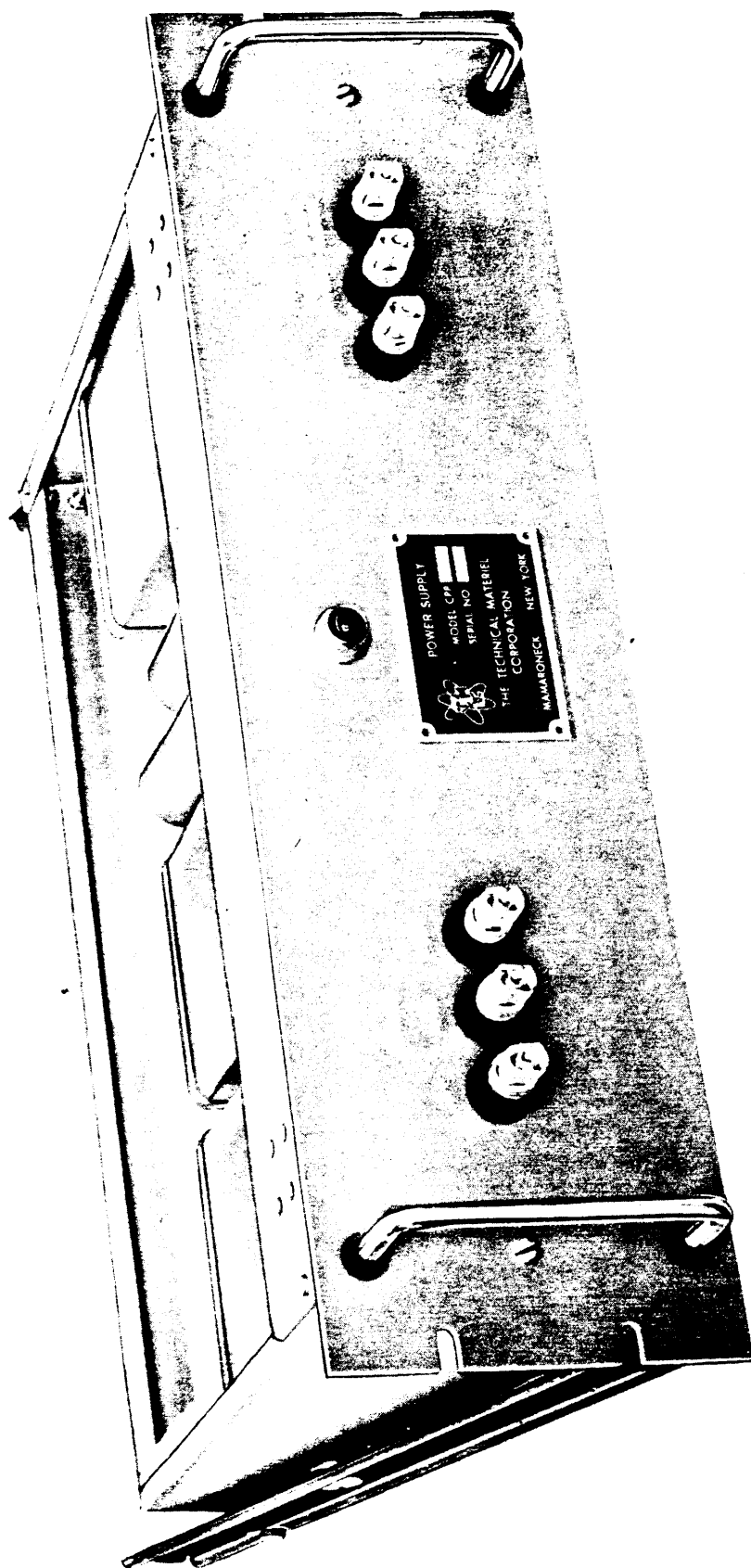


Figure 1-1

Power Supply CPP-1, Top View

SECTION 1  
GENERAL INFORMATION

1. PURPOSE

The Technical Materiel Corporation's Power Supply CPP-1 provides +200V dc (unregulated), +150V dc regulated), and 6.3V ac for the CHG-1 Frequency Amplifier, where the application is to GPT-10K(R) and GPT-40K(A) transmitters.

2. DESCRIPTION

The CPP-1 front panel is 3/16 inch thick by 19 inches long and 5 1/4 inches high and is finished in TMC gray enamel. The chassis extends 16 1/2 inches behind the panel and is self-supporting. (See figure 1-1 and 3-2).

Fuses for the operation of the CPP-1 are located on its front panel. The equipment is manufactured in accordance with JAN/MIL standards, whenever practicable. All parts and assemblies meet or exceed highest quality standards.

TABLE 1  
ELECTRICAL CHARACTERISTICS

Power Requirements CPP-1	115- or 230 VAC, 50 to 60 cps 200 watts (maximum)
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TABLE 2  
VACUUM TUBE COMPLEMENT

SYMBOL	TYPE	FUNCTION
V401	0A2	Regulator

## SECTION 2 INSTALLATION

### 1. INITIAL INSPECTION

The CPP-1 has been tested and calibrated before shipment. Only minor preparations are required to put the units into operation.

Upon arrival at the operating site, inspect the packing case and its contents immediately for possible damage. Unpack the equipment carefully. Inspect all packing material for parts which may have been shipped as "loose items". Although the carrier is liable for any damage to the equipment, The Technical Materiel Corporation will assist in describing and providing for repair or replacement of damaged items.

The equipment is shipped with plug-in components installed. Check that all such components are properly seated in their sockets.

### 2. 115- VS 230- VOLT POWER SUPPLY CONNECTIONS

CPP-1 is normally operated from 115- or 230-volt, 60-cycle, single-phase power; it is factory wired for 115 volts. If 230-volt operation is required, make the connections shown in figure 3-1.

### 3. INTERCONNECTIONS

Figure 2-1 indicates the following interconnections in rack AX239, used with synthesized models of GPT-10K and GPT-40K transmitters.





SECTION 3  
OPERATOR'S SECTION

GENERAL INFORMATION

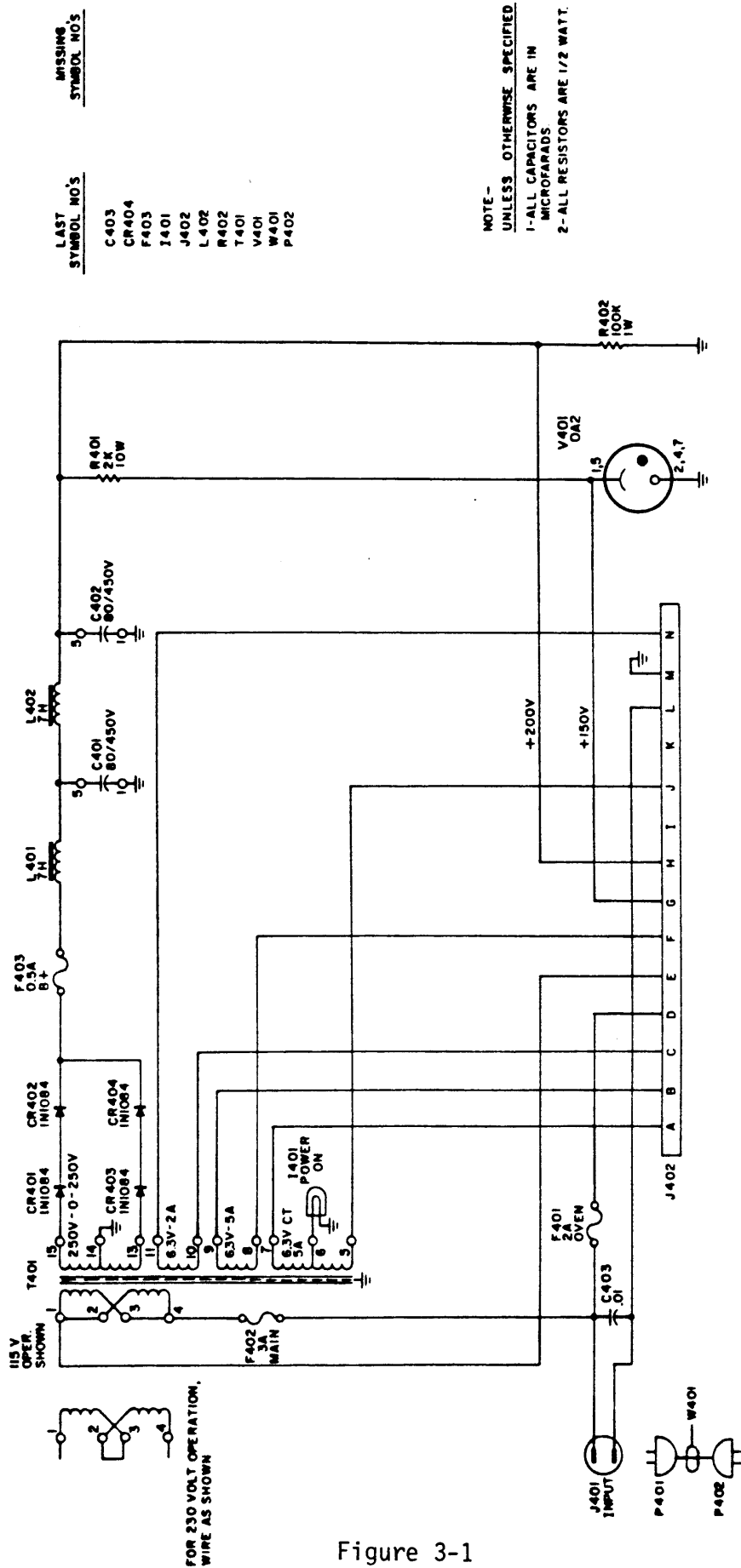
1. The CPP-1 supplies to the CHG 200V dc (unregulated), 150V dc (regulated) 6.3V ac.

a. 200V dc reaches the CHG via terminal H of J402 and is obtained by a "dry" rectifier composed of CR401 through CR404 selenium rectifiers. (See figure 2-1).

b. 150V dc reaches the CHG via terminal G of J402 and is obtained by OA2 regulator tube fed by 200V dc unregulated bus.

c. 6.3 ac output reaches the CHG via terminals NC, BF, and AJ of J402.

d. POWER ON indicator I401 operates on 3.15V ac to ground.



LAST SYMBOL NO'S

C403

CR404

F403

I401

J402

L402

R402

T401

V401

P402

MISSING SYMBOL NO'S

NOTE - UNLESS OTHERWISE SPECIFIED

1- ALL CAPACITORS ARE IN MICROFARADS

2- ALL RESISTORS ARE 1/2 WATT.

Figure 3-1

Schematic Diagram, Power Supply, CPP-1

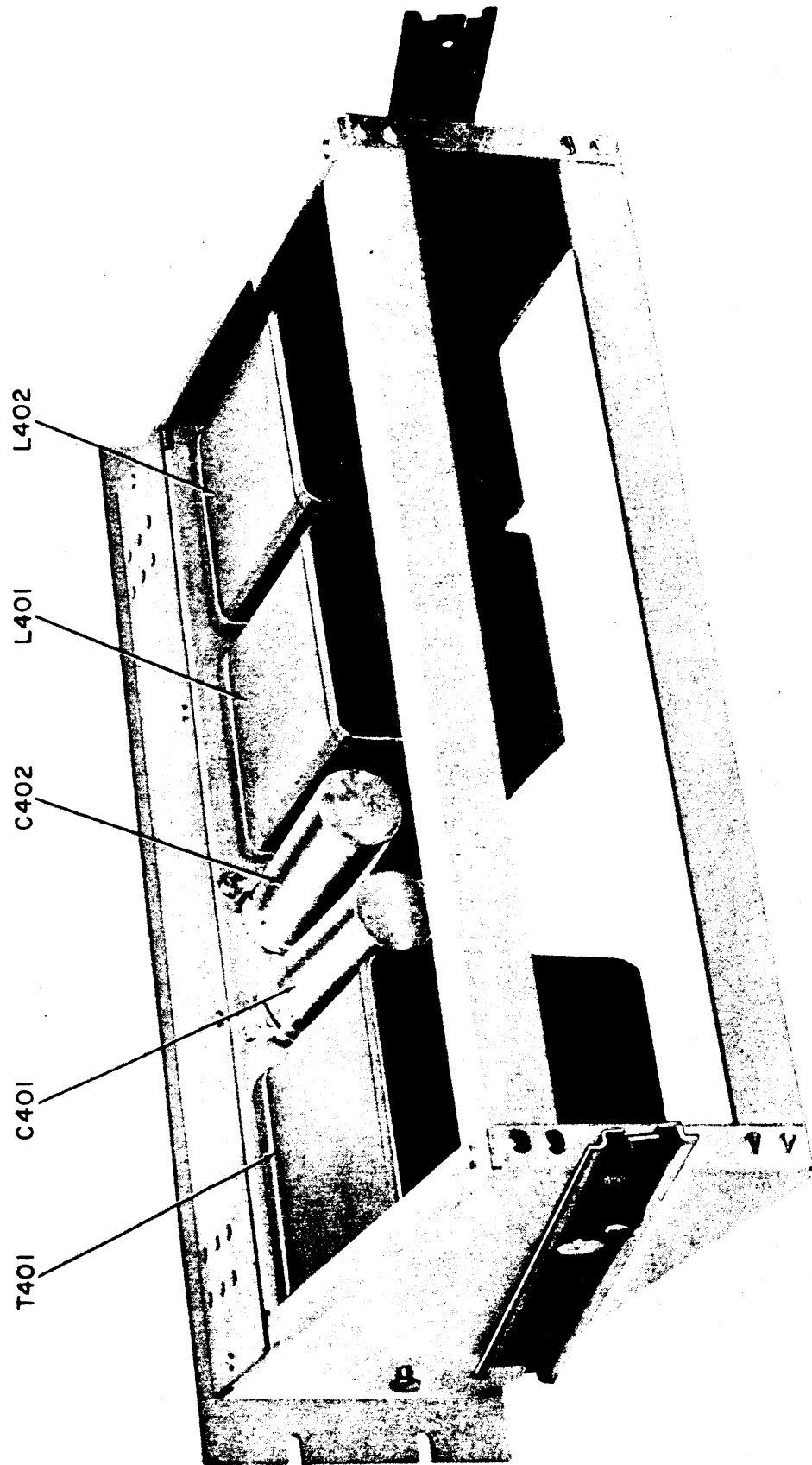


Figure 3-2

Reference Designations for Lower Rear Components of Power Supply, CPP-1

SYM.	DESCRIPTION	APPLICATION	TMC DWG. OR PART NO.
C401	CAPACITOR, electrolytic: 80 uf; 450V	CPP-1	CE51F800R
C402	CAPACITOR, electrolytic: 80 uf; 450V	CPP-1	CE51F800R
C403	CAPACITOR, fixed: paper	CPP-1	CN-110-103-G
CR401	DIODE, rectifier: silicone	CPP-1	1N1084
CR402	DIODE, rectifier: silicone	CPP-1	1N1084
CR403	DIODE, rectifier: silicone	CPP-1	1N1084
CR404	DIODE, rectifier: silicone	CPP-1	1N1084
F401	FUSE, 2 amp (115V OPERATION)	CPP-1	FU-102-2
F401	FUSE, cartridge: SLO-BLO, lamp (230V OPERATION)	CPP-1	FU-102-1
F402	FUSE, 3 amp (115V OPERATION)	CPP-1	FU-102-3
F402	FUSE, cartridge: SLO-BLO, 1.5 amp (230V OPERATION)	CPP-1	FU-102-1.5
F403	FUSE, 0.5 amp (115V OPERATION)	CPP-1	FU-102-.5
I401	LAMP, incandescent	CPP-1	BI-101-47
J401	RECEPTACLE, male: twist lock 3 wire	CPP-1	JJ-175
J402	RECEPTACLE	CPP-1	MS3102A-20-27S
L401	REACTOR, filter	CPP-1	TF-5013
L402	REACTOR, filter	CPP-1	TF-5013
P401	CONNECTOR, plug: female 3 prong	CPP-1	PL-176
P402	CONNECTOR, plug: male 2 prong	CPP-1	PL-171
R401	RESISTOR, fixed: wirewound; 2K, 10W	CPP-1	RW-109-28
R402	RESISTOR, fixed: composition	CPP-1	RC32GF104K
T401	TRANSFORMER, power	CPP-1	TF-226
V401	TUBE, electron	CPP-1	OA2
W401	CABLE, AC (includes P401 and P402)	CPP-1	CA-555-1
XC401	SOCKET, octal	CPP-1	TS-101-P01
XC402	SOCKET, octal	CPP-1	TS-101-P01

Component Parts CPP-1

## POWER SUPPLY CPP-1

SYM.	DESCRIPTION	APPLICATION	TMC DWG. OR PART NO.
XCR401	HOLDER, rectifier: polarized	CPP-1	CU-128
XCR402	HOLDER, rectifier: polarized	CPP-1	CU-128
XCR403	HOLDER, rectifier: polarized	CPP-1	CU-128
XCR404	HOLDER, rectifier: polarized	CPP-1	CU-128
XF401	FUSE, extractor: post	CPP-1	FH-104-3
XF402	FUSE, extractor: post	CPP-1	FH-104-3
XF403	FUSE, extractor: post	CPP-1	FH-104-3
XI401	SOCKET, lens: miniature; bayonet, red frosted	CPP-1	TS-106-1
XV401	SOCKET & SHIELD, miniature: 7 pin	CPP-1	TS-102-P01