2-1974

Macromodular Computer Design, Part 2, Volume 09, Faceplate Boxes, Types 5-10

Computer Systems Laboratory, Washington University

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Computer Systems Laboratory
Washington University
St. Louis, Missouri
ABSTRACT

This document contains the necessary procedures and wiring lists for the assembly of Macro-Module Faceplate Box types 5 through 10.
INDEX

TYPE 5 FACEPLATE BOX
PAGES 305-1 thru 305-18

TYPE 6 FACEPLATE BOX
PAGES 306-1 thru 306-14

TYPE 7 FACEPLATE BOX
PAGES 307-1 thru 307-4

TYPE 8 FACEPLATE BOX
PAGES 308-1 thru 308-4

TYPE 9 FACEPLATE BOX
PAGES 309-1 thru 309-23

TYPE 10 FACEPLATE BOX
PAGES 310-1 thru 310-24
## TYPE 5 FACEPLATE BOX

<table>
<thead>
<tr>
<th>PAGE</th>
<th>TITLE</th>
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<td>305-1</td>
<td>TITLE PAGE</td>
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<td>305-2</td>
<td>TYPE 5 FACEPLATE BOX PARTS LIST</td>
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<tr>
<td>305-3</td>
<td>TYPE 5 FACEPLATE BOX - INTRODUCTION AND ASSEMBLY PROCE-</td>
<td>A</td>
</tr>
<tr>
<td>305-4</td>
<td>DURE</td>
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</tr>
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<td>305-5</td>
<td>TYPE 5 FPB ASSEMBLY</td>
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<td>TYPE 5 FPB REAR CONNECTOR BLOCK - ASSEMBLY ORIENTA-</td>
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<td>TYPE 5 FPB VISCERAL SUBASSEMBLY</td>
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<td>305-9</td>
<td>TYPE 5 FPB INTERWIRING SUB-SUBASSEMBLY</td>
<td>A</td>
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- ISSUE - 9/28/70
- A 0059 10-20-70

MACROMODULAR SYSTEMS PROJECT

305-1
# TYPE 5 FACEPLATE 80X
## PARTS LIST

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<td>ASTRO RECEPTACLE SHELL</td>
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<td>VLLER 2NS-51N SPRING PLUNGER</td>
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<td>3'-16 X 2'-56 FILLISTER HEAD SS MACHINE SCREW</td>
</tr>
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<td>1</td>
<td></td>
<td>WIRE (SEE 305-10 FF FOR COLOR CODE)</td>
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<tr>
<td>9</td>
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<td>130 OHM 1/8 WATT 5% CARBON RESISTOR</td>
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<td>1/16 X 1/4 CADMIUM PLATED STEEL ROLL PIN</td>
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MACROMODULAR SYSTEMS PROJECT

305-2
TYPE 5 FACEPLATE BOX

INTRODUCTION

This document (305) describes the assembly of the Type 5 Faceplate Box. A list of all required parts, including sub-assemblies specified in other documents, is given on page 305-2. The general specification on wire preparation and wiring procedures (CSL Document 300.0) must be followed, together with the color code information supplied by the Type 5 Faceplate Box Wiring List (pages 305-10 ff).

ASSEMBLY PROCEDURE

A. Type 5 Faceplate Sub-subassembly (see page 305-9)

1. Screw the spring plunger into the faceplate until the tip of the plunger protrudes from the front surface of the faceplate by approximately 0.090 inch.

2. Mount the three ASTRO 348 receptacle shells via the ASTRO standoffs to the faceplate as shown on page 305-9 using 2-56 fillister head screws. NOTE THE ORIENTATION REQUIRED.

3. Install the roll pin in the lower right corner hole as shown, flush with the rear surface of the faceplate (protruding from the front surface approximately 1/16 inch).

B. Type 5 FPB Interwiring Sub-subassembly (see page 305-8)

1. Connectors D1, D2 and D3
   Following the Type 5 Faceplate Box Wiring List, crimp the wire pairs and the nine resistors into the ASTRO 348 male contacts and insert the contacts into designated contact retention discs (pin numbering is stamped in the receptacle shell). Apply the interfacial seals and slip on the rear nuts.

2. Wire to the FPB rear connectors A3, and A4, together with three solder-lug leads.

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305-3
C. Type 5 Visceral Subassembly (see page 305-7)

1. Mount the FPB rear connector filler strip on the two connector brackets with connector bracket screws, as shown on page (305-6). Note that the row of holes is not centered on the bracket. The bracket edge closest to the row of holes must face inward (towards the connector pins). NOTE CONNECTOR ORIENTATION REQUIRED.

2. Install the contact retention disc cable-head assemblies in the corresponding receptacle shells for D1, D2 and D3 (shown on page 305-9) and hand-tighten the ASTRO 348 Rear Nuts.

3. Attach the solder lugs to the receptacle shells as shown.

4. Mount FPB Rear Connector A4 to the connector brackets using connector bracket screws. NOTE CONNECTOR ORIENTATION REQUIRED.

5. Slip the FPB Key onto the connector brackets, and mount the FPB Rear Connector A3 using the two remaining connector bracket screws. NOTE THE ORIENTATION REQUIRED.

D. Final Assembly (see page 305-5)

1. Remove the four screws holding the top cover plate to the 1-cell FPB Shell struts and remove the top cover plate and the top overlay clip.

2. Slip the rear connector block of the Visceral Subassembly into the slots provided in the struts for the connector brackets, and attach the Faceplate to the front using the remaining 2-56 fillister head screws. NOTE THE ORIENTATION REQUIRED.

3. Reinstall the top overlay clip and attach the top cover plate, taking care to assure that the wires are not pinched.

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305-4
NOTE ORIENTATION
FPB CONNECTOR BRACKET

FPB REAR CONNECTOR A3

FPB KEY

FPB REAR CONNECTOR FILLER STRIP

FPB REAR CONNECTOR A4

KEY TAB EXTENDS LEFTWARDS

NOTE ORIENTATION OF EACH PART
TYPE 5 FACEPLATE SUB-SUBASSEMBLY
(SEE PAGE 305-9)

FPB REAR CONNECTOR A3

FPB KEY

FPB REAR CONNECTOR A4

FPB REAR CONNECTOR FILLER STRIP

TYPE 5 FPB INTERWIRING SUB-SUBASSEMBLY (SEE PAGE 305-8)

FPB CONNECTOR BRACKET

FPB CONNECTOR BRACKET SCREWS

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TITLE
TYPE 5 FPB VISCERAL SUBASSEMBLY

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A 10-20-70 E.C.O.0059
NOTE ORIENTATION

(D1) (D2) (D3)

TYPE 5 FACEPLATE

ROLL PIN SUNK FLUSH WITH REAR SURFACE

ASTRO STANDOFF

SPRING PLUNGER

ASTRO 348 RECEPTACLE SHELLS

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WASHINGTON UNIVERSITY
ST. LOUIS, MISSOURI

MACROMODULAR PROJECT

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ST. LOUIS, MISSOURI

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WASHINGTON UNIVERSITY
ST. LOUIS, MISSOURI

MACROMODULAR PROJECT
FPT5WL

[FPT5]
FACEPLATE TYPE 5 WIRING LIST

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28D2 [ SLATE
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34A3
27D2 [ WHITE
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35A3
26D2 [ BROWN
#
36A3
25D2 [ RED
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#
38A3 [NO CONNECTION
#
39A3
9D1 [ ORANGE
#
40A3
8D1 [ WHITE
#
41A3
15D1 [ GREEN
#
42A3
14D1 [ RED
#
43A3
13D1 [ GREEN
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44A3
12D1 [ WHITE
#
45A3
11D1 [ BROWN
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46A3
10D1 [ WHITE
#
47A3
9D2 [ ORANGE
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48A3
8D2 [ WHITE
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52A3 [ NO CONNECTION
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>>>>>>>>>>>>>>>>>
53A3
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54A3
12D2 [ WHITE
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55A3
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57A3 [ NO CONNECTION
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59A3 [ NO CONNECTION
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60A3 [ NO CONNECTION
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61A3
18D2 [ VIOLET
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62A3
19D2 [ BLUE
#
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63A3
18D1 [ VIOLET
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64A3
19D1 [ BLUE
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>>>>>>>>>>>>>>>>>
65A3 [ NO CONNECTION
## FPT5WL,5 LN=345

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70A3 [NO CONNECTION
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# 72A3
7D1 [ ORANGE
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7D2 [ ORANGE
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75A3
29D2 [ GREEN
#  >>>>>>>>>>>>>>>
76A3
29D1 [ GREEN
#  >>>>>>>>>>>>>>>
[FIVE WIRE ARE SOLDERED TO PIN 77A3
77A3
5D1 [ YELLOW
5D2 [ YELLOW
5D3 [ YELLOW
90A4
#  >>>>>>>>>>>>>>>
[PINS 78A3 THROUGH 90A3 INCLUSIVE HAVE NO CONNECTION
#
[ONLY EVEN NUMBERED PINS OF CONNECTOR A4 ARE USED WITH THE
EXCEPTIONS OF 1A4 AND 5A4.  ALL OTHER ODD NUMBERED PINS ARE
[NO CONNECTION.
#
1A4
22D3 [ BLUE
#  >>>>>>>>>>>>>>>
```
FPT5WL.6 LN=434

2A4
24D3 [ ORANGE
#
4A4
23D3 [ RED
#

SIX INCH WIRE WITH GROUND LUG
 CONNECT TO D3
#
6A4
33D3 [ BLUE
#
8A4
32D3 [ RED
#

10A4
31D3 [ SLATE
#
12A4
30D3 [ YELLOW
#
14A4
37D3 [ ORANGE
#
16A4
36D3 [ YELLOW
#
18A4
21D3 [ BROWN
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20A4
20D3 [ YELLOW
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24A4
16D3 [ YELLOW
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28D3 [ SLATE
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28A4
27D3 [ WHITE
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30A4
26D3 [ BROWN
#
32A4
25D3 [ RED
# >>>>>>>>>>>>>>>>
34A4
9D3 [ ORANGE
#
36A4
8D3 [ WHITE
#
 >>>>>>>>>>>>>>>>
38A4
15D3 [ GREEN
#
40A4
14D3 [ RED
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42A4
13D3 [ GREEN
#
44A4
12D3 [ WHITE
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46A4
11D3 [ BROWN
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48A4
10D3 [ WHITE
#
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50A4
18D3 [ VIOLET
#
52A4
19D3 [ BLUE
#
 >>>>>>>>>>>>>>>>
54A4
6D3 [ VIOLET
#
56A4
7D3 [ ORANGE
#
 >>>>>>>>>>>>>>>>
[PINS 58A4 THROUGH 88A4 INCLUSIVE ARE NO CONNECTION.
#
90A4 [SEE 77A3
#
 >>>>>>>>>>>>>>>>
[THE FOLLOWING ARE RESISTORS WITH THEIR LEADS CRIMPED DIRECTLY INTO THE INDICATED CONNECTOR CONTACTS. THE LEADS SHALL BE COVERED BY TEFLOM SLEEVING, AND THE COLOR CODE MAY BE IGNORED.
[ 1R601
I
FPT5WL, 10 LN=614

1D1 [ RED
#
2R601
2D1 [ SLATE
#

>>>>>>>>>>>>>>>
1R602
3D1 [ YELLOW
#
2R602
4D1 [ BLUE
#

>>>>>>>>>>>>>>>
1R603
34D1 [ WHITE
#
2R603
35D1 [ BLUE
#

>>>>>>>>>>>>>>>
1R604
1D2 [ RED
#
2R604
2D2 [ SLATE
#

>>>>>>>>>>>>>>>
1R605
3D2 [ YELLOW
#
2R605
4D2 [ BLUE
#

>>>>>>>>>>>>>>>
1R606
34D2 [ WHITE
#
2R606
35D2 [ BLUE
#

>>>>>>>>>>>>>>>
1R607
1D3 [ RED
#
2R607
2D3 [ SLATE
#

>>>>>>>>>>>>>>>
1R608
3D3 [ YELLOW
#
2R608
4D3 [ BLUE
#

>>>>>>>>>>>>>>>
1R609
34D3 [ WHITE
FPT5WL-11  LN=705

# 2R609
    3503 { BLUE
#

----------------------

{ END OF WIRING LIST

{FPT5WL
{GERALD C JOHNS
{ 2 OCTOBER 1970
## TYPE 6 FACEPLATE BOX

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<td>TYPE 6 FACEPLATE BOX PARTS LIST</td>
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<td>TYPE 6 FPB REAR CONNECTOR BLOCK – ASSEMBLY ORIENTATION</td>
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<td>306-7</td>
<td>TYPE 6 FPB VISCERAL SUBASSEMBLY</td>
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<td>306-8</td>
<td>TYPE 6 FPB INTERWIRING SUB-SUBASSEMBLY</td>
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<td>TYPE 6 FACEPLATE SUB-SUBASSEMBLY</td>
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<td>CONNECTOR PIN DESIGNATION</td>
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ISSUE | 1-25-72 | CEM |
# TYPE 6 FACEPLATE BOX
## PARTS LIST

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<td>300,5-15</td>
<td>TYPE 6 FACEPLATE</td>
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<td>2</td>
<td>300,5-3</td>
<td>FPB CONNECTOR BRACKET SCREW</td>
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<td>1</td>
<td>300,5-5</td>
<td>FPB KEY</td>
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<td>1</td>
<td>300,6</td>
<td>V-BUS SUBASSEMBLY</td>
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<td>1</td>
<td>300,0</td>
<td>FPB REAR CONNECTOR</td>
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<td>TYPE 1 FUNCTION CODE SWITCH SUBASSEMBLY</td>
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<td>8</td>
<td>300,0</td>
<td>COAXICON</td>
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<td>8</td>
<td>300,0</td>
<td>FERRULE</td>
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<td>V-LIER #NS-51N SPRING PLUNGER</td>
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<td>WIRE (SEE 306-1 IF FOR COLOR CODE)</td>
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MACROMODULAR SYSTEMS PROJECT
INTRODUCTION

This document (306) describes the assembly of the Type 6 Faceplate Box. A summary list of all required parts, including subassemblies specified in other documents, is given on page 306-2. The general specification on wire preparation and wiring procedures (CSL Document 300.0) must be followed, together with the color code information supplied by the Type 6 Faceplate Box Wiring List (pages 306-11 ff).

ASSEMBLY PROCEDURE

A. Type 6 Faceplate Sub-subassembly (see page 306-9)

1) Crimp-wire the set of eight coaxicon control connectors and press the resulting pre-wired connectors into the faceplate in the locations shown on page 306-9, taking care to assure that after installation the connectors will accept a mating coaxicon plug without binding. NOTE THE ORIENTATION REQUIRED.

2) Screw the spring plunger into the faceplate until the tip of the plunger protrudes from the front surface of the faceplate by approximately 0.090 inch.

3) Mount the three coax connectors with solder lugs to the faceplate as shown on page 306-9. The lockwashers are to be placed in the counterbored hole in the front of the faceplate before inserting the connector. NOTE THE ORIENTATION REQUIRED.

B. Type 6 FPB Interwiring Sub-subassembly (see page 306-8)

1) Jumper the Type 6 Function Code Switch Sub-assembly and wire to the FPB Rear Connector A3.

C. Type 6 Visceral Subassembly (see page 306-7)

1) Mount the Function Code Switch Subassembly on the faceplate using two 2-56 fillister head screws. The sense pins must operate freely.

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ISSUE | - | 1-25-72 | CMM

306-3
2) Wire the leads from the coaxicon control connectors and the coax connectors to the FPB Rear Connector A3.

3) Wire coax connectors.

4) Rear connector block:
   Slip the FPB Key onto the V-Bus Subassembly connector brackets, and mount the FPB Rear Connector A3 using the two connector bracket screws. **NOTE THE ORIENTATION REQUIRED** (page 306-6).

D. Final Assembly (see page 306-5)

1) Remove the four screws holding the top cover plate to the 1-cell FPB Shell struts and remove the top cover plate and the top overlay clip.

2) Slip the rear connector block of the Visceral Subassembly into the slots provided in the struts for the connector brackets, and attach the Faceplate to the front using the remaining 2-56 fillister head screws. **NOTE THE ORIENTATION REQUIRED.**

3) Reinstall the top overlay clip and attach the top cover plate, taking care to assure that the wires are not pinched.
1-CELL FPB SHELL

TYPE 6 FPB VISCERAL SUBASSEMBLY
(SEE PAGE 306-7)

NOTE ORIENTATION

TOP COVER PLATE

TOP OVERLAY CLIP

MOUNTING SCREWS
FPB KEY

NOTE ORIENTATION

FPB REAR CONNECTOR A3

V-BUS SUBASSEMBLY

NOTE ORIENTATION
(KEY TAB EXTENDS RIGHTWARD)
NOTE ORIENTATION

SPRING PLUNGER
SOLDER LUG
COAX CONNECTORS
TYPE 6 FACEPLATE

PRESS FIT
PREWIRED CONTROL CONNECTORS

NOTE ORIENTATION

V1 G1 V2 G2 G3 G4 V3 G5 V4 G6 G7
(S1) (S2) (S3) (S4) (S5)

G2 G4 G6 G8

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MACROMODULAR PROJECT

NOTE ORIENTATION

TITLE
TYPE 6 FACEPLATE SUB-SUBASSEMBLY

DRAWING NO.
306-9

CHANGE NO. DATE DESCRIPTION

ISSUE 1-28-72

CHANGE 1 DATE 2-8-72 DESCRIPTION

DRAWN

CHECKED

APPROVED

ENG.

FUR

DATE

PROD.

MDP

DATE

306-9

Clem

Clem

Clem

Clem

Clem

1-28-72

1-2-72
PIN 3 IS GROUND UNDER CRIMP FERRULE

SOLDER LUG

PIN 1

PIN 2

PIN 3 IS SOLDER LUG

PIN 1
MALE

PIN 2
FEMALE

CONNECTOR PIN DESIGNATION

MACROMODULAR PROJECT

CONNECTOR PIN DESIGNATION

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FACEPLATE TYPE 6 WIRING LIST

1A3 [NO CONNECTION]

2A3
3V1 [BLUE]

3A3 [NO CONNECTION]

4A3 [NO CONNECTION]

5A3
1V1 [WHITE]

6A3
2V1 [GREEN]

7A3 [NO CONNECTION]

8A3 [NO CONNECTION]

9A3 [NO CONNECTION]

10A3
3V2 [BLUE]

11A3 [NO CONNECTION]

12A3 [NO CONNECTION]

13A3
1V2 [RED]

14A3
2V2 [ORANGE]

15A3
3G5 [BLUE]

16A3
3G1 [BLUE]
17A3
1G5 [ WHITE

18A3
2G5 [ SLATE

19A3
2G1 [ BLUE

20A3
1G1 [ WHITE

21A3
2G3 [ GREEN

22A3
1G3 [ WHITE

23A3
3G3 [ BLUE

24A3
3G4 [ BLUE

26A3
1G4 [ WHITE

25A3
2G4 [ BROWN

27A3
1G2 [ WHITE

28A3
2G2 [ ORANGE

29A3
1G6 [ YELLOW

30A3
2G6 [ BLUE

31A3
2S4 [ BLUE

32A3

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<td>1-25-72</td>
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306-12
3G6 [ BLUE
#
>>>>>>>>>>>>>>>>>
33A3
2S5 [ BLUE
#
>>>>>>>>>>>>>>>>>
34A3
3G2 [ BLUE
#
>>>>>>>>>>>>>>>>>
35A3
3S2 [ RED
#
>>>>>>>>>>>>>>>>>
36A3 [ NO CONNECTION
#
>>>>>>>>>>>>>>>>>
37A3
3S3 [ RED
#
>>>>>>>>>>>>>>>>>
56A3
2S1 [ RED
#
PINS 38A3 THROUGH 55A3 INCLUSIVE ARE NO CONNECTION
>>>>>>>>>>>>>>>>>
58A3
3G8 [ BLUE
#
>>>>>>>>>>>>>>>>>
59A3
1G8 [ YELLOW
#
60A3
2G8 [ GREEN
#
>>>>>>>>>>>>>>>>>
61A3
1S1 [ YELLOW
1S2 [ YELLOW
1S3 [ YELLOW
1S4 [ YELLOW
1S5 [ YELLOW
#
>>>>>>>>>>>>>>>>>
62A3 [ NO CONNECTION
#
>>>>>>>>>>>>>>>>>
63A3 [ NO CONNECTION
#
>>>>>>>>>>>>>>>>>
64A3 [ NO CONNECTION
>>>>>>>>>>>>>>>>>
65A3
1V3 [ YELLOW
#
66A3
2V3 [BLUE]
#
>>>>>>>>>>>>>>>>>>>>>
67A3
3V3 [BLUE]
#
>>>>>>>>>>>>>>>>>>>>>
68A3
3G7 [BLUE]
#
>>>>>>>>>>>>>>>>>>>>>
69A3
1G7 [YELLOW]
#
70A3
2G7 [ORANGE]
#
>>>>>>>>>>>>>>>>>>>>>
[ PINS 71A3 THROUGH 90A3 INCLUSIVE ARE NO CONNECTION]
[END OF WIRING LIST]
[FPT6C]
[27 DECEMBER 1971]
[GERALD C JOHNS]
[FPT6WL]
## Type 7 Faceplate Box

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<th>Page</th>
<th>Title</th>
<th>Change</th>
</tr>
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<tr>
<td>307-1</td>
<td>Title Page</td>
<td>Issue</td>
</tr>
<tr>
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<td>Parts List</td>
<td></td>
</tr>
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<td>307-3</td>
<td>Introduction and Assembly Procedure</td>
<td></td>
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<tr>
<td>307-4</td>
<td>Type 7 PPB Assembly</td>
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Macromodular Systems Project

307-1
## TYPE 7 FACEPLATE BOX
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<td>300.5-16</td>
<td>TYPE 7 REAR CONNECTOR FILLER STRIP</td>
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<td>V-BUS SUBASSEMBLY</td>
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INTRODUCTION AND ASSEMBLY PROCEDURE

Introduction

This document (307) describes the assembly of the type 7 Faceplate box. A summary list of all required parts, including subassemblies specified in other documents, is given on page 307-2.

Assembly Procedure

1) Screw the spring plunger into the faceplate until the tip of the plunger protrudes from the front surface of the faceplate by approximately .090 inch.

2) Onto the V-Bus Subassembly mount the type 7 FPB rear connector filler strip using the two connector bracket screws. Note the orientation required.

3) Remove the four screws holding the top cover plate to the 1-cell FPB shell struts and remove the top cover plate and the overlay clip.

4) Slip the V-bus subassembly into the slots provided in the struts for the connector brackets, and attach the Faceplate to the front using the four 2-56 fillister head screws. Note the orientation required.

5) Reinstall the top overlay clip and top cover plate.
# TYPE 8 FACEPLATE BOX
## PARTS LIST

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<td>TYPE 8 FPB FILLER</td>
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MACROMODULAR SYSTEMS PROJECT

308-2
INTRODUCTION AND ASSEMBLY PROCEDURE

Introduction

This document (308) describes the assembly of the type 8 Faceplate box. A summary list of all required parts, including subassemblies specified in other documents, is given on page 308-2.

Assembly Procedure

1) Screw the spring plunger into the faceplate until the tip of the plunger protrudes from the front surface of the faceplate by approximately .090 inch.

2) Remove the four screws holding the top cover plate to the 1-cell FPB shell struts and remove the top cover plate and the overlay clip.

3) Slip the type 8 FPB filler into the slots provided in the struts and attach the Faceplate to the front using the four 2-56 fillister head screws. Note the orientation of the Faceplate.

4) Reinstall the top overlay clip and the top cover plate.
SPRING PLUNGER

TOP COVER PLATE

OVERLAY CLIP

MOUNTING SCREWS

TYPE 8 FACEPLATE

TYPE 8 FPB FILLER

MACROMODULAR PROJECT

COMPUTER SYSTEMS LABORATORY
WASHINGTON UNIVERSITY
ST. LOUIS, MISSOURI

MACROMODULAR PROJECT

TITLE

TYPE 8 FPB ASSEMBLY

ISSUE
2-29-72

CHANGE NO.

DATE

DESCRIPTION

COMPUTER SYSTEMS LABORATORY
WASHINGTON UNIVERSITY
ST. LOUIS, MISSOURI

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<td>TYPE 9 FPB ASSEMBLY</td>
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<td>TYPE 9 FPB VISCERAL SUBASSEMBLY</td>
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<td>TYPE 9 FACEPLATE COMPONENT ORIENTATION</td>
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<td>TYPE 9 FACEPLATE SUB-SUBASSEMBLY FRONT-VIEW</td>
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MACROMODULAR SYSTEMS PROJECT
## TYPE 9 FACEPLATE BOX
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MACROMODULAR SYSTEMS PROJECT

309-2
INTRODUCTION

This document (309) describes the assembly of the Type 9 Faceplate Box. A summary list of all required parts, including subassemblies specified in other documents, is given on page 309-2. The general specification on wire preparation and wire procedures (CSL Document 300.0) must be followed, together with the color code information supplied by the wire lists for the Type 9 Box (pages 309-13 ff).

ASSEMBLY PROCEDURE

A. Type 9 Faceplate Subassembly

1) Following the table on page 309-13, crimp wire pairs into the coaxicon connectors.
2) Press the coaxicon connectors into the faceplate as shown in page 309-8. Note the orientation.
3) Screw the spring plunger into the faceplate until the tip protrudes approximately 0.090 inch from the front surface. Lock the plunger in place with a 8-32 hex nut.
4) Preparation of the Circuit Board Subassembly:
   a) Insert and solder twenty-four blue wires to the circuit board as shown on page 309-10. Push stripped wire into hole until insulation is flush with solder pad. Bend wire end over onto the pad, and solder. Cut off any extra.
   b) Using 2-56 fillister head screws, attach four ASTRO standoffs loosely to the blank side of the circuit board - DO NOT TIGHTEN:
   c) Insert two light emmitting diodes from the blank side so that the lead with the double shoulder (see page 309-12) protrudes through the hole marked “X”. DO NOT SOLDER YET.
   d) With the assembly jig held in a vise as shown in page 309-9, fit the circuit board up to the jig by placing the standoffs in the appropriate holes. Be sure that the LED’s are lined up with the two holes in the jig marked “X”.
   e) Tighten the four screws, and then solder the LED’s in place. Be sure that both leads of an LED protrude at least 0.025 inch - that is equal to the width of the lead.

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NOTE:

In production, it may be easier to tighten the screws with the jig laying on a flat surface before the LED's are inserted. Then mount the jig in a vise and mount the LED's.

f) Insert the five data modules into the circuit board. Mate the assembly jig to the circuit board subassembly and set it down on a flat surface. Solder the data modules to the board.

5) Mount the circuit board subassembly to the faceplate with four 2-56 fillister head screws.
6) Insert the polarizing key between contacts 6 and 7 in the Viking connector. Mount the Viking connector as shown on page 309-6. Use two 4-40 x 3/8 binder head screws to hold the connector to the struts. Use six 2-56 fillister head screws to hold the strut covers to the struts and to hold the struts to the faceplate. NOTE: insert all eight screws loosely before tightening any one of them, then tighten the strut covers first.

7) Following the list on page 309-16, solder the eight wire pairs and two single wires to the Viking connector. The wires must be soldered to the contacts as shown on pages 309-6 and 309-11.
8) Solder two wires to the code switch according to the list on page 309-17. Mount the code switch subassembly to the faceplate with two 2-56 x 3/16 fillister head screws.

B. Type 9 FPB Interwiring Subassembly

Following the type 9 Faceplate Box Wiring List on pages 309-18-ff, make all connections indicated to the FPB rear connector A3. Use shrink tubing on each connection.

C. Final Assembly

1) Slip the FPB key onto the V-Bus subassembly connector brackets, and mount the FPB rear connector A3 using the two bracket screws. Note the orientation of the key and connector shown on page 309-6.
2) Remove the four screws holding the top cover plate to the 1-cell FPB shell struts, and remove the top cover plate and overlay clip.
3) Slip the rear connector bracket into the slots provided in the struts and attach the faceplate to the front using four 2-56 fillister head screws.
4) Replace top cover plate and overlay clip being careful not to pinch any wires.
NOTE: KEY TAB EXTENDS LEFTWARD.
NOTE ORIENTATION OF COAXICONS (15)

LED

VIKING POLARIZING KEY

DATA MODULE (5)
PC BOARD ASSEMBLY JIG
(PART NO. 903)
COMPUTER SYSTEMS LABORATORY
WASHINGTON UNIVERSITY
ST. LOUIS, MISSOURI

MACROMODULAR PROJECT

TITLE
PC BOARD WIRING

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DRAWING NO. 309-10
SHRINK TUBING MUST BE CUT EVEN WITH TOP OF PINS

AFTER SOLDERING WIRES MUST BE PLACED
DOWN THE PIN AND BROUGHT OUT LYING FLAT
ON THE CONNECTOR

WIRES FROM PINS ON ROW B MUST BE PLACED
BETWEEN PINS ON ROW A.

NOTE:
WHEN SOLDERING CARE MUST BE TAKEN NOT TO INJURE
THE WIRES INSULATION PLACED BETWEEN THE PINS ON
ROW A.
G-LIST 1  LN=1

WIRE LIST FOR COAXICONS

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G-LIST, 2   LN=72

162   C  WHITE
262   C  ORANGE
>>>>>>>>>>>>>>>>>
369   C  BLUE
>>>>>>>>>>>>>>>>>
368   C  BLUE
>>>>>>>>>>>>>>>>>
367   C  BLUE
>>>>>>>>>>>>>>>>>
366   C  BLUE
>>>>>>>>>>>>>>>>>
365   C  BLUE
>>>>>>>>>>>>>>>>>
364   C  BLUE
>>>>>>>>>>>>>>>>>
363   C  BLUE
>>>>>>>>>>>>>>>>>
362   C  BLUE
>>>>>>>>>>>>>>>>>
361   C  BLUE
>>>>>>>>>>>>>>>>>

E
CG-LIST
WIRE LIST FOR CIRCUIT BOARD HOLES

12H BLUE
17H BLUE
21H BLUE
8H BLUE
9H BLUE
22H BLUE
13H BLUE
18H BLUE
5H BLUE
4H BLUE
10H BLUE
15H BLUE
19H BLUE
6H BLUE
7H BLUE
20H BLUE
11H BLUE
16H BLUE
2H BLUE
1H BLUE
24H BLUE
23H BLUE
14H BLUE
3H BLUE

CH-LIST

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<td>6-15-73</td>
<td>RJA</td>
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V-LIST, LN=1

WIRE LIST FOR VIKING CONNECTOR

2AV C WHITE
2BV C BLUE
3AV C VIOLET
1BV C ORANGE
7AV C YELLOW
7BV C BLUE
4AV C YELLOW
4BV C BROWN
3AV C RED
3BV C SLATE
8AV C WHITE
8BV C SLATE
9BV C BLUE
9AV C WHITE
10BV C GREEN
10AV C WHITE
5AV C YELLOW
5BV C YELLOW

CV-LIST

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309-16
S-LIST,1  LN=1

WIRE LIST FOR CODE SWITCH

2S1 [BLUE
   [NORMALLY OPEN
   [LABELED "NO"

1S1 [YELLOW
   [COMMON
   [LABELED "C"

C

C-S-LIST

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**TYPE 9 FACEPLATE WIRING LIST**

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<td>6-15-73</td>
<td>RJA</td>
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- 1A3 12H CBLUE
- 2A3 17H CBLUE
- 3A3 21H CBLUE
- 4A3 8H CBLUE
- 5A3 9H CBLUE
- 6A3 22H CBLUE
- 7A3 13H CBLUE
- 8A3 18H CBLUE
- 9A3 5H CBLUE
- 10A3 4H CBLUE
- 11A3 2AV C WHITE
- 12A3 2BV C BLUE
- 13A3 1AV C VIOLET
- 14A3 18V C ORANGE
FP9WL,2 LN=72

15A3
7AVC YELLOW

# 16A3
7BVC BLUE

# 17A3
10H CBLUE

# 18A3
15H CBLUE

# 19A3
19H CBLUE

# 20A3
6H CBLUE

# 21A3
7H CBLUE

# 22A3
20H CBLUE

# 23A3
11H CBLUE

# 24A3
16H CBLUE

# 25A3
2H CBLUE

# 26A3
1H CBLUE

# 27A3
4AVC YELLOW

# 28A3
4BV C BROWN

# 29A3
3AVC RED
# 30A3
3BV C SLATE
#
>>>>
31A3
3G15 C BLUE
#
>>>>
32A3
3G14 C BLUE
#
>>>>
33A3
8AV C WHITE
#
34A3
8BV C SLATE
#
>>>>
35A3
2S1 CBLUE
#
>>>>
36A3
3G13 C BLUE
#
>>>>
37A3
24H CBLUE
#
>>>>
38A3
23H CBLUE
#
>>>>
39A3
2G1 C BLUE
#
40A3
161 C WHITE
#
>>>>
41A3
2G7 C ORANGE
#
42A3
1G7 C YELLOW
#
>>>>
43A3
2G4 C BROWN
#
44A3
1G4 C WHITE
#
>>>>

FPT9WL, 4  LN=254

45A3
2610  [ ORANGE
#
46A3
1610  [ RED
#
        >>>>>>>>>>>>>>>>>>>
47A3
2613  [ SLATE
#
48A3
1613  [ RED
#
        >>>>>>>>>>>>>>>>>>>
49A3
3612  [ BLUE
#
        >>>>>>>>>>>>>>>>>>>
50A3
3611  [ BLUE
#
        >>>>>>>>>>>>>>>>>>>
51A3
1612  [ RED
#
52A3
2612  [ BROWN
#
        >>>>>>>>>>>>>>>>>>>
53A3
1615  [ YELLOW
#
54A3
2615  [ ORANGE
#
        >>>>>>>>>>>>>>>>>>>
55A3
169  [ RED
#
56A3
269  [ BLUE
#
        >>>>>>>>>>>>>>>>>>>
57A3
166  [ YELLOW
#
58A3
266  [ BLUE
#
        >>>>>>>>>>>>>>>>>>>
59A3
3610  [ BLUE
#
        >>>>>>>>>>>>>>>>>>>
60A3  [NO CONNECTION
#
        >>>>>>>>>>>>>>>>>>>
FPT9WL.5  LN=345

61A3  
163 C WHITE  
#
62A3  
2G3 C GREEN  
#

63A3  
9BV C BLUE  
#
64A3  
9AV C WHITE  
#

65A3  
10BV C GREEN  
#
66A3  
10AV C WHITE  
#

67A3  
1611 C RED  
#
68A3  
2G11 C GREEN  
#

69A3  
1614 C YELLOW  
#
70A3  
2G14 C BLUE  
#

71A3  
168 C YELLOW  
#
72A3  
2G8 C GREEN  
#

73A3  
165 C WHITE  
#
74A3  
265 C SLATE  
#

75A3  
162 C WHITE  
#
76A3  
262 C ORANGE  
#

[THREE WIRES ARE SOLDERED TO PIN 77A3]
77A3
14H C BLUE
5AV C YELLOW
5BV C YELLOW
#
>>>>>>>>>>>>>>>>>>
78A3 CNO CONNECTION
#
>>>>>>>>>>>>>>>>>>
79A3
369 C BLUE
#
>>>>>>>>>>>>>>>>>>
80A3
368 C BLUE
#
>>>>>>>>>>>>>>>>>>
[TWO WIRES ARE SOLVEKED TO PIN 81A3
81A3
1S1 C YELLOW
3H C BLUE
#
>>>>>>>>>>>>>>>>>>
82A3
367 C BLUE
#
>>>>>>>>>>>>>>>>>>
83A3
366 C BLUE
#
>>>>>>>>>>>>>>>>>>
84A3
365 C BLUE
#
>>>>>>>>>>>>>>>>>>
85A3
364 C BLUE
#
>>>>>>>>>>>>>>>>>>
86A3
363 C BLUE
#
>>>>>>>>>>>>>>>>>>
87A3
362 C BLUE
#
>>>>>>>>>>>>>>>>>>
88A3
361 C BLUE
#
>>>>>>>>>>>>>>>>>>
89A3 CNO CONNECTION
#
90A3 CNO CONNECTION
#
>>>>>>>>>>>>>>>>>>
CFPT9WL
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<td>Parts List</td>
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<td>thru Introduction - Assembly Procedures</td>
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<td>310-6</td>
<td>Type 10 Faceplate Box Assembly</td>
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<td>Type 10 Faceplate Sub-subassembly Front View</td>
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<td>Type 10 Faceplate Sub-subassembly Rear View</td>
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<td>Wiring Instructions: Viking Connectors F1, F2</td>
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<td>Type 10 Faceplate-connector Orientation</td>
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<td>Type 10 FPB Rear Connector Block Assemblies</td>
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<td>Type 10 FPB Wiring List</td>
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<td>Viking Connector No. 3VH10/1JN5</td>
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<td>4-40 x 3/8Binder Head Screw</td>
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<td>2-56 x 3/16 Fillister Head S.S. Machine Screws</td>
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<td>H.H. Smith No. 1412-4 Locking Terminal Lug</td>
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<td>1/16 inch Shrink Tubing</td>
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<td>Viking Polarizing Key No. 091-0071-000</td>
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MACROMODULAR SYSTEMS PROJECT

310.2
INTRODUCTION

This document (310) describes the assembly of the Type 10 Faceplate Box. A summary list of all required parts, including subassemblies specified in other documents, is given on page 310-2.

The general specification on wire preparation and wiring procedures (CSL Document 300.0) must be followed together with the color code information supplied by the wire lists for the Type 10 FPB. (Pages 310-12 thru 310-24).

ASSEMBLY PROCEDURES

A. Type 10 Faceplate Sub-subassembly

1. Install a Viking Polarizing key between pins 8 and 9 in each of the Viking connectors (No. 3VH10/1JN5) as shown in drawing No. 310-7. Mount Viking Connectors onto a Type 1 and Type 2 Connector Strut as shown in drawing Nos. 310-8 and 310-10, using 4-40 x 3/8 screws. (Note the orientation of struts and connectors.) Mount Strut Covers (part No. 300.5-21) using two 2-56 x 3/16 screws for each cover. (See drawing Nos. 310-10 and 310-8.) Place the Interlock Pin (part No. 300.5-22) into the two Type 2 Connector Struts. (See drawing No. 310-8). Mount assemblies onto Type 10 Faceplate using 2-56 x 3/16 screws as shown in drawing No. 310-7.

2. Mount Astro Standoffs (part No. 300.5-4) onto Type 10 Faceplate (part No. 300.5-25) using 2-56 x 3/16 screws (see drawing No. 310-10). Apply a small quantity of Locktite to each of these screws before assembly and tighten firmly. Mount Astro Connectors No. 348-7012-1 and ground lugs on to Astro Standoffs using 2-56 x 3/16 screws. (See drawing No. 310-8 for correct orientation of ground lugs and connectors).

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<td>Issue</td>
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<td>5-29-73</td>
<td>RJA</td>
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310-3
3. Thread switches (No. CK7101) with lock nuts and lock washers into Type 10 Faceplate as shown in drawings 310-8 and 310-10. Switch lever must protrude approximately .130 inch. (See drawing No. 310-7). Securely tighten the lock nut and washer against the Type 10 faceplate. At this time check for free operation of switches.

4. Remove the backing from the Type 10 Faceplate Overlay (part No. 300.5-24) exposing the adhesive. Place on Type 10 Faceplate as shown in drawing No. 310-6, carefully aligning all holes.

5. Two LED retention flanges should now be pressed by hand into the specified holes (drawing No. 310-6) with the flanges to the front. The two LEDs shall then be inserted into the retention flanges from the rear until they snap securely into place, with Pin 1 and Pin 2 aligned horizontally. Pin 1, or the double shouldered lead, shall be placed on the left side of the Type 10 Faceplate as viewed from the front. The next step is to press on the rear locking ring. This is done by centering it over the rear of the retention flange and pressing straight down until the ring touches the metal surface. (Notice the locking ring is tapered. The ring must be installed with the large end down toward the metal.)

B. Type 10 FPB Interwiring Sub-subassembly

1. Connectors D1, D2, D3, D4, D5, D6

Following the Type 10 FPB Wiring List, crimp the wire pairs in the Astro 348 male contacts and insert the contacts into the Astro 348 connector following the directions supplied with the connectors. Terminate the free end of these wires to their respective terminals on connectors A3 and A5. Connectors A3 and A5 are not as yet mechanically attached to any mounting hardware.

C. Connector F1 and F2

1. Following the Type 10 FPB wiring list interconnect F1, F2, A3 and A5. Drawing No. 310-9 indicates the correct method of wiring to and insulating terminals and connectors F1 and F2.
2. All unused pins of F1, F2, A3 and A5 must be covered with shrink tubing.

D. Light Emitting Diodes L1 and L2
1. Following the Type 10 FPB Wiring List, wire wrap and solder to LED terminals then cover with shrink tubing and wire to the FPB Rear Connector A5 and to Astro Connector D6. Note that 1L1 and 1L2 (Double Shouldered Pins) are tied together and a single wire then goes to D6. Note orientation on drawing No. 310-8.

E. Switches S1, S2, S3, S4
1. Following the Type 10 FPB Wiring List, wire Switches to the FPB Rear Connectors A3 and A5. See drawing No. 310-8 for orientation.

F. Assembly of Rear Connectors A3 and A5
1. Slip the FPB Key onto the V-bus Subassembly Connector Brackets and mount the FPB Rear Connector A5 using two Connector Bracket Screws. Note the orientation on drawing No. 310-11.

2. Mount Connector A3 and Type 10 Filler Strip to Connector Brackets (part No. 300.5-2.) See drawing No. 310-11.

G. Final Assembly (See page 310-6)
1. Remove the screws holding the topmost and bottommost Cover Plate pair to the 2-cell FPB Shell Struts. Remove these Cover Plates with their respective Overlay Clips.

2. Slip the Rear Connector Blocks of the two connector assemblies into the slot provided in the Struts for the Connector Bracket. See drawing No. 310-11. Replace Cover Plate pair and attach the Type 10 Faceplate to front using the remaining 2-56 screws.

3. Take care to assure that the wires are not pinched in this assembly.
3/16 x 2-56 Fillister Head Screws for Astro Standoffs (24)

Type 10 Faceplate (Part No. 3005-25)

3/16 x 2-56 Fillister Head Strut Screws (4)

Viking Polarizing Key

Switch Levers Must Not Extend Outward More Than .338 Inch

Computer Systems Laboratory
Washington University
St. Louis, Missouri

Macromodular Project
Wires from pins on Row A must be placed between pins on Row B.

Shrink tubing must be cut even with top of pins.

After soldering wires must be placed down the pin and brought out lying flat on the connector.

NOTE:
When soldering care must be taken not to injure the wire insulation placed between the pins on Row B.

A solution would be to solder wires on Row B before placing wires between pins.
FPT10WL.1  LN=1

C TYPE TEN FACEPLATE BOX WIRING LIST
C
C
C
C
C

>>>>>>>>>>>>>>>>>
#
1A3
3AF1E RED
#
5A3 [ TWO WIRES
3BF1E SLATE
#
>>>>>>>>>>>>>>>>>
2A3
2AF1E WHITE
#
5A3 [ TWO WIRES
2BF1E BLUE
#
>>>>>>>>>>>>>>>>>
3A3
5AF1E WHITE
#
6A3 [ TWO WIRES
5BF1E GREEN
#
>>>>>>>>>>>>>>>>>
4A3
4AF1E YELLOW
#
6A3 [ TWO WIRES
4BF1E BROWN
#
>>>>>>>>>>>>>>>>>
C
C TWO WIRES ARE SOLDERED TO PIN 7A3
C
7A3
2BF1E BLUE
2BF2E BLUE
#
>>>>>>>>>>>>>>>>>
C
C THREE SIX INCH WIRES WITH GROUND LUGS SOLDERED TO PIN 8A3
C
8A3
D1
D2
#
>>>>>>>>>>>>>>>>>
9A3
19D4 [ BLUE
#
10A3
18D4 [ VIOLET
#
>>>>>>>>>>>>>>>>>

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<td>5-29-73</td>
<td>RJA</td>
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310-12
1 LN=72

11A3
1901 (BLUE
#
12A3
1801 (VIOLET
#
13A3
6D4 (VIOLET
#
14A3
7D4 (ORANGE
#
15A3
6D4 (VIOLET
#
16A3
7D1 (ORANGE
#
17A3
3D06 (ORANGE
#
18A3
3D06 (YELLOW
#
19A3
3D06 (ORANGE
#
20A3
3D06 (YELLOW
#
21A3
3D06 (SLATE
#
22A3
3D06 (YELLOW
#
23A3
3D06 (SLATE
#
24A3
3D06 (YELLOW
#
25A3
2D06 (ORANGE
#
26A3
23D6 (RED
#
27A3

310-13
# 24A3 C ORANGE
# 28A3
# 23D3 C RED
# >>>>>>>>>>>>>>>>>>>>
# 29A3
# 32D6 C RED
# 30A3
# 33D6 C BLUE
# >>>>>>>>>>>>>>>>>>>>
# 31A3
# 32D3 C RED
# 32A3
# 33D6 C BLUE
# >>>>>>>>>>>>>>>>>>>>
# 33A3
# 26D6 C BROWN
# 34A3
# 25D6 C RED
# >>>>>>>>>>>>>>>>>>>>
# 35A3
# 26D3 C BROWN
# 36A3
# 25D3 C RED
# >>>>>>>>>>>>>>>>>>>>
# 37A3
# 28D6 C SLATE
# 38A3
# 27D6 C WHITE
# >>>>>>>>>>>>>>>>>>>>
# 39A3
# 28D3 C SLATE
# 40A3
# 27D3 C WHITE
# >>>>>>>>>>>>>>>>>>>>
# 41A3
# 21D6 C BROWN
# 42A3
# 20D6 C YELLOW
# >>>>>>>>>>>>>>>>>>>>
# 43A3
# 21D3 C BROWN
PT10WL4  LN=254

# 44A3  20D3 [ YELLOW
# >>>>>>>>>>>>>>>>
45A3  16D6 [ YELLOW
# 46A3  17D6 [ GREEN
# >>>>>>>>>>>>>>>>
47A3  16D3 [ YELLOW
# 48A3  17D3 [ GREEN
# >>>>>>>>>>>>>>>>
49A3  11D6 [ BROWN
# 50A3  10D6 [ WHITE
# >>>>>>>>>>>>>>>>
51A3  11D3 [ BROWN
# 52A3  10D3 [ WHITE
# >>>>>>>>>>>>>>>>
53A3  13D6 [ GREEN
# 54A3  12D6 [ WHITE
# >>>>>>>>>>>>>>>>
55A3  13D3 [ GREEN
# 56A3  12D3 [ WHITE
# >>>>>>>>>>>>>>>>
57A3  9D6 [ ORANGE
# 58A3  8D6 [ WHITE
# >>>>>>>>>>>>>>>>
59A3  9D3 [ ORANGE
#
60A3
8D3  [WHITE]
#

61A3
14D6  [RED]
#

62A3
15D6  [GREEN]
#

63A3
14D3  [RED]
#

64A3
15D3  [GREEN]
#

65A3
36D2  [YELLOW]
#

66A3
37D2  [ORANGE]
#

67A3
30D2  [YELLOW]
#

68A3
31D2  [SLATE]
#

69A3
32D2  [RED]
#

70A3
33D2  [BLUE]
#

71A3
23D2  [RED]
#

72A3
24D2  [ORANGE]
#

73A3
19D2  [BLUE]
#

74A3
18D2  [VIOLET]
#

75A3
60D2  [VIOLET]
#

76A3
FPT10WL.6  LN=436

7D2 [ ORANGE
#
>>>>>>>>>>>>>>>>>

CTEN WIRES ARE SOLDERED TO PIN 77A3

77A3
5D1 [ YELLOW
5D2 [ YELLOW
5D3 [ YELLOW
5D4 [ YELLOW
5D5 [ YELLOW
5D6 [ YELLOW
1L1 [ NOTE-DOUBLE SHOULDER
1L2 [ NOTE-DOUBLE SHOULDER
1AF1 [ YELLOW
1AF2 [ YELLOW
#
>>>>>>>>>>>>>>>>>

C
CTHREE SIX INCH WIRES WITH GROUND LUGS SOLDER TO PIN 78A3

78A3
D4
D5
D6
#
>>>>>>>>>>>>>>>>>

79A3
8BF2 [ SLATE
#
80A3
8AF2 [ WHITE
#
>>>>>>>>>>>>>>>>>

81A3
8AF1 [ WHITE
#
82A3
8BF1 [ SLATE
#
>>>>>>>>>>>>>>>>>

83A3
3AF2 [ RED
#
88A3 [ TWO WIRES
3BF2 [ SLATE
#
>>>>>>>>>>>>>>>>>

84A3
2AF2 [ WHITE
#
88A3 [ TWO WIRES
2BF2 [ BLUE
#
>>>>>>>>>>>>>>>>>

85A3

310-17
FPT10WL,7  LN=527

# 5AF2C WHITE
# 90A3 [TWO WIRES
5BF2C GREEN
#

>>>>
86A3
4AF2C YELLOW
#

>>>>
90A3 [TWO WIRES
4BF2C BROWN
#

>>>>
87A3
2S1
#

>>>>

[CHAIN 89A3 TO THE FOLLOWING

89A3
3S1
1S2
1S3
1S4
#

>>>>
1A5
7D6 [ ORANGE
#

2A5
6D6 [ VIOLET
#

>>>>
3A5
19D6 [ BLUE
#

4A5
18D6 [ VIOLET
#

>>>>
5A5
6D3 [ VIOLET
#

6A5
7D3 [ ORANGE
#

>>>>
7A5
19D3 [ BLUE
#

8A5
18D3 [ VIOLET
#

>>>>
9A5
28D4 [ SLATE
26A5
23D5 C RED
#
>>>>>>>>>>>>>>>>>
27A5
32D5 C RED
#
28A5
33D5 C BLUE
#
>>>>>>>>>>>>>>>>>
29A5
9D4 C ORANGE
#
30A5
8D4 C WHITE
#
>>>>>>>>>>>>>>>>>
31A5
15D4 C GREEN
#
32A5
14D4 C RED
#
>>>>>>>>>>>>>>>>>
33A5
13D4 C GREEN
#
34A5
12D4 C WHITE
#
>>>>>>>>>>>>>>>>>
35A5
11D4 C BROWN
#
36A5
10D4 C WHITE
#
>>>>>>>>>>>>>>>>>
37A5
17D4 C GREEN
#
38A5
16D4 C YELLOW
#
>>>>>>>>>>>>>>>>>
39A5
21D4 C BROWN
#
40A5
20D4 C YELLOW
#
>>>>>>>>>>>>>>>>>
41A5
25D5 C RED
#
42A5
26D5 [ BROWN
*

>>>>

43A5
28D5 [ SLATE
*

44A5
27D5 [ WHITE
*

>>>>

45A5
21D5 [ BROWN
*

46A5
20D5 [ YELLOW
*

>>>>

47A5
16D5 [ YELLOW
*

48A5
17D5 [ GREEN
*

>>>>

49A5
28D1 [ SLATE
*

50A5
27D1 [ WHITE
*

>>>>

51A5
26D1 [ BROWN
*

52A5
25D1 [ RED
*

>>>>

53A5
24D1 [ ORANGE
*

54A5
23D1 [ RED
*

>>>>

55A5
37D1 [ ORANGE
*

56A5
36D1 [ YELLOW
*

>>>>

57A5
31D1 [ SLATE
*

58A5
30D1 [ YELLOW
FPT10WU.13  LN=1073

# >>>>>>>>>>>>>>>>>>
59A5  
33D1 C BLUE
#
# 60A5  
32D1 C RED
#
# >>>>>>>>>>>>>>>>>>
61A5  
10D5 C WHITE
#
# 62A5  
11D5 C BROWN
#
# >>>>>>>>>>>>>>>>>>
63A5  
13D5 C GREEN
#
# 64A5  
12D5 C WHITE
#
# >>>>>>>>>>>>>>>>>>
65A5  
9D5 C ORANGE
#
# 66A5  
8D5 C WHITE
#
# >>>>>>>>>>>>>>>>>>
67A5  
14D5 C RED
#
# 68A5  
15D5 C GREEN
#
# >>>>>>>>>>>>>>>>>>
69A5  
7D5 C ORANGE
#
# 70A5  
6D5 C VIOLET
#
# >>>>>>>>>>>>>>>>>>
71A5  
18D5 C VIOLET
#
# 72A5  
19D5 C BLUE
#
# >>>>>>>>>>>>>>>>>>
77A3  
2L1 (NOTE SINGLE SHOULDER)
#
# >>>>>>>>>>>>>>>>>>
74A5 C NO CONNECTION
#

310-22
FPT10WL.14  LN=1164

>>>>>>>>>>>>>>>>>>
75A5
# 2S3

>>>>>>>>>>>>>>>>>>
76A5  [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>
77A5  [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>
78A5
2L2  [NOTE-SINGLE SHOULDER]
# >>>>>>>>>>>>>>>>>>>
79A5
# 2S4

# >>>>>>>>>>>>>>>>>>>
80A5
# 2S2

# >>>>>>>>>>>>>>>>>>>
81A5
9BF1C  BLUE
# >>>>>>>>>>>>>>>>>>>
82A5
9AF1C  WHITE
# >>>>>>>>>>>>>>>>>>>
83A5
9BF2C  BLUE
# >>>>>>>>>>>>>>>>>>>
84A5
9AF2C  WHITE
# >>>>>>>>>>>>>>>>>>>
85A5
10AF1C  WHITE
# >>>>>>>>>>>>>>>>>>>
86A5
10BF1C  GREEN
# >>>>>>>>>>>>>>>>>>>
87A5
10AF2C  WHITE
# >>>>>>>>>>>>>>>>>>>
88A5
10BF2C  GREEN
# >>>>>>>>>>>>>>>>>>>

[THREE SIX INCH WIRES SOLDER TO PIN 89A5]

89A5
22D1  [BLUE]
22D2  [BLUE]
FPT10WL+15  LN=1255

22D3 [ BLUE
# >>>>>>>>>>>>>>>>

THREE SIX INCH WIRES SOLDER TO PIN 90A5

90A5
22D4 [ BLUE
22D5 [ BLUE
22D6 [ BLUE
# >>>>>>>>>>>>>>>>

CFPT10WL
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### 13. Abstract

This document contains the necessary procedures and wiring lists for the assembly of Macro-Module Faceplate Box types 5 through 10.
<table>
<thead>
<tr>
<th>KEY WORDS</th>
<th>LINK A</th>
<th></th>
<th>LINK B</th>
<th></th>
<th>LINK C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Macromodule Faceplate Box</td>
<td></td>
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