Macromodular Computer Design, Part 2, Volume 08, Faceplate Overlays, Overlay Labels, and Faceplate Boxes, Types 1-4

Computer Systems Laboratory, Washington University

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MACROMODULAR
COMPUTER DESIGN
PART 2
MANUFACTURING DESCRIPTION

VOLUME VIII
FACEPLATE OVERLAYS, OVERLAY LABELS AND
FACEPLATE BOXES, TYPES 1-4

Technical Report No. 37

FINAL REPORT - FEBRUARY, 1974
CONTRACT SD-302 (ARPA)
COMPUTER SYSTEMS LABORATORY
WASHINGTON UNIVERSITY
ST. LOUIS, MISSOURI
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Computer Systems Laboratory
Washington University
St. Louis, Missouri
ABSTRACT

This document is divided into two segments. The first segment, pages 100.1-1 through 100.1-5, contains the information necessary to duplicate Macro-Module Faceplate Overlays and Overlay Labels plus a brief functional description of the Overlay.

The second segment of this volume contains the necessary procedures and wiring lists for the assembly of Macro-Module Faceplate Box types 1 through 4.
INDEX

FACEPLATE OVERLAYS AND OVERLAY LABELS
PAGES 100.1-1 thru 100.1-5

TYPE 1 FACEPLATE BOX
PAGES 301-1 thru 301-16

TYPE 1A FACEPLATE BOX
PAGES 301A-1 thru 301A-21

TYPE 2 FACEPLATE BOX
PAGES 302-1 thru 302-15

TYPE 3 FACEPLATE BOX
PAGES 303-1 thru 303-16

TYPE 4 FACEPLATE BOX
PAGES 304-1 thru 304-15
## FACEPLATE OVERLAYS AND OVERLAY LABELS

<table>
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<td>100.1-2</td>
<td>FUNCTIONAL DESCRIPTION</td>
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<td>100.1-3</td>
<td>OVERLAY PLATES</td>
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<td>100.1-4</td>
<td>OVERLAY LABEL OUTLINE</td>
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</tr>
<tr>
<td>100.1-5</td>
<td>MODULE NAMES, NUMBERS, AND COLORS</td>
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**MACROMODULAR SYSTEMS PROJECT**
FUNCTIONAL DESCRIPTION

The overlay is a flat piece of aluminum that snaps onto the front of a faceplate box. (Dwg. 100.1-3) The physical function of the overlay is to supply the module with faceplate code information by depressing some of the code switches on the faceplate box and allowing others to remain extended. A depressed switch corresponds to a 1-bit; a non-depressed switch, a 0-bit. Up to five switch positions are used, the number of positions depending upon the module type and intended use. (Immovable pins, or keys, may be present in unused positions on the faceplate box.) Other holes are punched into it for data cables and the control cables. An adhesive overlay label, color-coded to indicate the module type, may be affixed to the overlay before punching if desired.

If used, a colored overlay label serves several purposes. (Dwgs. 100.1-4, 100.1-5). Its color code allows easy visual identification of the various module types in a system, and also serves as a key for matching a faceplate box-overlay combination with its proper (also color-labeled) electronics package. It also gives the designer a place to add his own labeling formation.
OVERLAY PLATE TYPE | H | P
---|---|---
1-CELL OVERLAY PLATE | 2.240 | 2.000
2-CELL OVERLAY PLATE | 4.760 | 4.520
3-CELL OVERLAY PLATE | 7.280 | 7.040
4-CELL OVERLAY PLATE | 9.800 | 9.560

MATERIAL: 0.030 ALUMINUM 3003-H14
TOLERANCES: ±0.005 U.O.H.
FINISH: C51 SPEC. MIL
DEBURR ALL EDGES

SECTION AA
SECTION BB

0.015 ± 0.002
MAX. R: 0.010
MIN. FLAT 0.070
0.015 FILE BREAK 2 LONG EDGES ONLY

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MACROMODULAR PROJECT

OVERLAY PLATES

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<td>8-13-70</td>
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MATERIAL: TAG STOCK WITH K-1 ADHESIVE (PEELABLE) ON REMOVABLE BACKING.

FORM: ONE LABEL PER BACKING SHEET WITH ⅛ INCH GRIPPER EDGE ON ONE SIDE.
<table>
<thead>
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COMPUTER SYSTEMS LABORATORY
WASHINGTON UNIVERSITY
ST. LOUIS, MISSOURI

MACROMODULAR PROJECT

TITLE
MODULE NAMES, NUMBERS, AND COLORS

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APPROVED BY:
ENG MAW
DRAWN BY:
MBP
CHECKED:
DATE 6/17/70

DRAWING NO. 100.1-5
# TYPE 1 FACEPLATE BOX

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<td>TYPE 1 FACEPLATE BOX PARTS LIST</td>
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MACROMODULAR SYSTEMS PROJECT

301-1
# TYPE 1 FACEPLATE BOX
## PARTS LIST

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<td>ASTRO 348 REAR NUT</td>
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<td>VIATOR INS-51N SPRING PLUNGER</td>
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<td>2</td>
<td>-</td>
<td>NO. 2 SERRATED-HOLE SOLDER LUG</td>
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<td>22</td>
<td>-</td>
<td>3/16 x 2-56 FILLISTER HEAD SS MACHINE SCREW</td>
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<td>WIRE (SEE 301-10 IF FOR COLOR CODE)</td>
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<td>6</td>
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<td>130 OHM 1/8 WATT 5% CARBON RESISTOR</td>
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301-2
INTRODUCTION

This document (301) describes the assembly of the Type 1 Faceplate Box. A summary list of all required parts, including subassemblies specified in other documents, is given on page 301-2. 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 1 Faceplate Box Wiring List (pages 301-10 ff).

ASSEMBLY PROCEDURE

A. Type 1 Faceplate Sub-subassembly (see page 301-9)
1) Crimp-wire the set of four coaxicon control connectors and press the resulting pre-wired connectors into the faceplate in the locations shown on page 301-9, 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 two ASTRO 348 receptacle shells in the ASTRO standoffs to the faceplate as shown on page 301-9 using 2-56 fillister head screws. NOTE THE ORIENTATION REQUIRED.

B. Type 1 FPB Interwiring Sub-subassembly (see page 301-8)
1) Connectors D1 and D2:
   Following the Type 1 Faceplate Box Wiring List, crimp the wire pairs and the six resistors into the ASTRO 348 male contacts and insert the contacts into the 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 connector A3, together with two solder-lug leads.
3) Jumper the Type 1 Function Code Switch Sub-assembly and wire to the FPB Rear Connector A3.

C. Type 1 Visceral Subassembly (see page 301-7)
1) Mount the Function Code Switch Subassembly on the faceplate using two 2-56 fillister head screws. The sense pins must operate freely.
2) Wire the leads from the coaxicon control connectors to the FPB Rear Connector A3.

3) Install the contact retention disc assemblies in the corresponding receptacle shells for D1 and D2 (shown on page 301-9) and hand-tighten the ASTRO 348 Rear Nuts.

4) Attach the solder lugs to the receptacle shells as shown.

5) 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 301-6).

D. Final Assembly (see page 301-5)

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.
NOTE ORIENTATION

TOP OVERLAY CLIP

MOUNTING SCREWS

1-CELL FPB SHELL

TYPE 1 FPB VISCERAL SUBASSEMBLY

SEE PAGE 301-7
FPB REAR CONNECTOR A3

NOTE ORIENTATION

FPB KEY

NOTE ORIENTATION

(V-BUS SUBASSEMBLY)

(KEY TAB EXTENDS LEFTWARD)

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MACROMODULAR PROJECT

TYPE 1 FPB REAR CONNECTOR
BLOCK-ASSEMBLY ORIENTATION

ISSUE 8-20-70 E.C.O. 0028

MAC

WAC 301-6

DRAWING NO.

E.H. DRAWIN

CHANGE DESCRIPTION
NO. DATE

1

9-13-70

1

8-20-70
FPB CONNECTOR
BRACKET SCREW

TYPE 1 FACEPLATE SUB-SUBASSEMBLY
(SEE PAGE 301-9)

TYPE 1 FPB INTERWIRING
SUB-SUBASSEMBLY
(SEE PAGE 301-8)

V-BUSS SUBASSEMBLY

FPB KEY

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MACROMODULAR PROJECT

TITLE
TYPE 1 FPB VISCERAL SUBASSEMBLY

ENG.
WAC
DRAWING NO.
301-7
5-22-70
NOTE ORIENTATION

PRESS FIT PREWIRED CONTROL CONNECTORS

SPRING PLUNGER

TYPE 1 FACEPLATE

ASTRO STANDOFF

ASTRO 348 RECEPTACLE SHELL

NOTE ORIENTATION

(G1)

(G2)

(G3)

(G4)

(S1)

(S2)

(S3)

(S4)

(S5)

NOTE ORIENTATION

(D1)

(D2)
[TYPE ONE FACEPLATE BOX WIRING LIST]

# >>>>>>>>>>>>>>>>>>>>>
# 1A3  [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>>
# 2A3  [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>>
# 3A3
# 24D1  [ORANGE]
# 4A3
# 23D1  [RED]
# >>>>>>>>>>>>>>>>>>>>>
# 5A3
# 33D1  [BLUE]
# 6A3
# 32D1  [RED]
# >>>>>>>>>>>>>>>>>>>>>
# 7A3
# 31D1  [SLATE]
# 8A3
# 30D1  [YELLOW]
# >>>>>>>>>>>>>>>>>>>>>
# 9A3
# 37D1  [ORANGE]
# 10A3
# 36D1  [YELLOW]
# >>>>>>>>>>>>>>>>>>>>>
# 11A3
# 24D2  [ORANGE]
# 12A3
# 23D2  [RED]
# >>>>>>>>>>>>>>>>>>>>>
# 13A3
# 33D2  [BLUE]
# 14A3
# 32D2  [RED]
# >>>>>>>>>>>>>>>>>>>>>
# 15A3
# 31D2  [SLATE]
FPT1WL.3  LN=163

32A3
  16D2  [ YELLOW

# >>>>>>>>>>>>>>>>
33A3
  28D2  [ SLATE

# 34A3
  27D2  [ WHITE

# >>>>>>>>>>>>>>>>
35A3
  26D2  [ BROWN

# 36A3
  25D2  [ RED
# >>>>>>>>>>>>>>>>
37A3
  361  [ BLUE
# >>>>>>>>>>>>>>>>
38A3
  3G2  [ BLUE
# >>>>>>>>>>>>>>>>
39A3
  9D1  [ ORANGE

# 40A3
  8D1  [ WHITE

# >>>>>>>>>>>>>>>>
41A3
  15D1  [ GREEN

# 42A3
  14D1  [ RED

# >>>>>>>>>>>>>>>>
43A3
  13D1  [ GREEN

# 44A3
  12D1  [ WHITE

# >>>>>>>>>>>>>>>>
45A3
  11D1  [ BROWN

# 46A3
  10D1  [ WHITE

# >>>>>>>>>>>>>>>>
47A3
  9D2  [ ORANGE

301-12
48A3
8D2 [ WHITE
#

>>>>
49A3
15D2 [ GREEN
#

50A3
14D2 [ RED
>>>>
#

51A3
3G3 [ BLUE
#

>>>>
52A3
3G4 [ BLUE
#

>>>>
53A3
13D2 [ GREEN
#

54A3
12D2 [ WHITE
#

>>>>
55A3
11D2 [ BROWN
#

56A3
10D2 [ WHITE
#

>>>>
57A3
1G3 [ WHITE
#

58A3
2G3 [ GREEN
#

>>>>
59A3
1G4 [ WHITE
#

60A3
2G4 [ BROWN
#

>>>>
61A3
18D2 [ VIOLET
#

62A3
19D2 [ BLUE
#

>>>>
63A3
18D1 [ VIOLET
#

301-13
FP1WL.5  LN=345

64A3
19D1 ['BLUE
#

>>>>>>>>>>>>>>>>
65A3  [NO CONNECTION
#
66A3  [NO CONNECTION
#

>>>>>>>>>>>>>>>>
67A3
1G2 ['WHITE
#
68A3
2G2 ['ORANGE
#

>>>>>>>>>>>>>>>>
69A3
1G1 ['WHITE
#
70A3
2G1 ['BLUE
#

>>>>>>>>>>>>>>>>
71A3
6D1 ['VIOLET
#
72A3
7D1 ['ORANGE
#

>>>>>>>>>>>>>>>>
73A3
6D2 ['VIOLET
#
74A3
7D2 ['ORANGE
#

>>>>>>>>>>>>>>>>
75A3
29D2 ['GREEN
#

>>>>>>>>>>>>>>>>
76A3
29D1 ['GREEN
#

>>>>>>>>>>>>>>>>

[ TWO WIRES ARE SOLDERED TO PIN 77A3
[
77A3
5D1 ['YELLOW
5D2 ['YELLOW
#

>>>>>>>>>>>>>>>>
78A3 ['SIX INCH BLUE WIRE WITH GROUND LUG
[CONNECT TO D1
#

>>>>>>>>>>>>>>>>
FPT1WL.6 LN=436

[ ONE WIRE TO PIN 79A3 AND TWO WIRE CONNECTIONS ON EACH COMMON PIN OF THE SWITCHES

79A3
1S1 [YELLOW
1S2 [YELLOW
1S3 [YELLOW
1S4 [YELLOW
1S5 [YELLOW

#
80A3 [ SIX INCH BLUE WIRE WITH GROUND LUG [CONNECT TO D2
#
81A3
2S1 [RED
#
82A3 [NO CONNECTION
#
83A3
2S5 [RED
#
84A3 [NO CONNECTION
#
85A3
2S4 [RED
#
86A3 [NO CONNECTION
#
87A3
2S3 [RED
#
88A3 [NO CONNECTION
#
89A3
2S2 [RED
#
90A3 [NO CONNECTION
#

[ THE FOLLOWING CONNECTIONS ARE RESISTORS WITH THEIR LEADS CRIMPED DIRECTLY INTO THE INDICATED CONNECTOR CONTACTS. THE EXPOSED PORTION OF THE LEADS SHALL BE COVERED BY TEFLOM SLEEVING. THE COLOR CODE MAY BE IGNORED.

>>>>>>>>>>>>>>>>>>
1D1 [ RED
1R601
#
2D1 [ SLATE
2R601
#
>>>>>>>>>>>>>>>>>>
1D2 [ RED
1R602
#
2D2 [ SLATE
2R602

CHG. E.C.O. DATE APPR.
B 0229 11/71 RJA
C 0247 1-13-72 RJA

301-15
[END OF CONNECTION LIST]

[FACEPLATE TYPE ONE COPPER LIST]

[Gerald C Johns]

[29 Sept 1970]
**COMPUTER SYSTEMS LABORATORY**  
WASHINGTON UNIVERSITY

**TYPE IA FACEPLATE BOX**

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**MACROMODULAR SYSTEMS PROJECT**
## TYPE 1A FACEPLATE BOX
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MACROMODULAR SYSTEMS PROJECT

301A-2
INTRODUCTION

This document (301A) describes the assembly of the Type 1A Faceplate Box. A summary list of all required parts, including subassemblies specified in other documents, is given on page 301A-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 Type 1A FPB (pages 301A-10 thru 301A-21).

ASSEMBLY PROCEDURE

A. Type 1A Faceplate Subassembly
1. 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. See pages 301A-5 and 301A-6.

2. Mount the two Astro 348 connectors using the ASTRO Standoffs and 2-56 fillister head screws as shown on page 301A-7. Note the orientation required.

3. Insert the Polarizing Key between contacts 8 and 9 in the Viking connector. Mount the Viking connector as shown on page 301A-7. Use two 4-40 x 3/8 binder head screws to hold the connector to the Connector 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 of them, then tighten the Strut Covers first. See pages 301A-6 and 301A-7.

B. Type 1A Faceplate Wire Preparation
1. Connectors D1 and D2
Following the list on pages 301A-10 thru 301A-12, crimp the wires and resistors into the male contacts and insert into the ASTRO 348 connectors. Each connector has fourteen wire pairs, three single wires, three resistors and one wire soldered to a lug.
2. Following the list on page 301A-13 solder the seven wire pairs and one single wire to the Viking connector. The wires should not protrude past the ends of the contact pins. See page 301A-6 and 301A-8.

3. Two additional yellow wires are soldered to the Viking connector. Each is combined with a single yellow wire from 5D1 and 5D2 as shown on page 301A-9.

4. Solder two wires to the Type 3 Function Code Sub-assembly according to the list on page 301A-14

C. Type 1A FPB Interwiring Subassembly

1. Mount the code switch subassembly as shown on page 301A-6.

2. Following the type 1A Faceplate Box Wiring List on pages 301A-15 thru 301A-21. Make all connections indicated to the FPB rear connector A3.

D. Final Assembly

1. 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 of the key as shown on page 301A-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 the top overlay clip. See page 301A-5.

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 the top cover plate and overlay clip, being careful not to pinch any wires.
CONNECTOR STRUTS TYPE I
(PART NO. 300.5-19)

GROUND LUG

ASTRO STANDOFF
(PART NO. 300.5-4)

SAME ORIENTATION FOR D2

VIKING CONNECTOR
PIN 1: ROM A

VIKING POLARIZING KEY

TYPE IA FACEPLATE

STRUT COVER
(PART NO. 300.5-21)

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ST. LOUIS, MISSOURI

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

Wires from pins on row A must be placed between pins on row B.

Shrink tubing must be cut even with top of pins.

Note: When soldering care must be taken not to injure the wire insulation placed between the pins on row B.
D1D2LIST,1 LN=1

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WIRE LIST FOR D1 AND D2

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C1D2LIST,2  LN=72

1501 [ GREEN
14D1 [ RED
13D1 [ GREEN
12D1 [ WHITE
11D1 [ BROWN
10D1 [ WHITE
9D2 [ ORANGE
8D2 [ WHITE
15D2 [ GREEN
14D2 [ RED
13D2 [ GREEN
12D2 [ WHITE
11D2 [ BROWN
10D2 [ WHITE
18D2 [ VIOLET
19D2 [ BLUE
1801 [ VIOLET
1901 [ BLUE
601 [ VIOLET
701 [ ORANGE
602 [ VIOLET
702 [ ORANGE
2902 [ GREEN
2901 [ GREEN
501 [ YELLOW
502 [ YELLOW
01-GND LUG [ BLUE
02-GND LUG [ BLUE
1C1 [ RESISTOR
2D1
1D2 [ RESISTOR
2D2
3C1 [ RESISTOR
4D1
D1D2LIST, 3  LN=163

 >>>>>>>>>>>>>>>>>>>
 3D2  [RESISTOR
 4D2
 >>>>>>>>>>>>>>>>>>>
 34D1  [RESISTOR
 35D1
 >>>>>>>>>>>>>>>>>>>
 34D2  [RESISTOR
 35D2
 >>>>>>>>>>>>>>>>>>

]  [D1D2LIST
VIKLST.1 LN=1

[ WIRE LIST FOR VIKING CONNECTOR ]

[ SEE ASSEMBLY INSTRUCTIONS ]

[ THESE TWO WIRES COMBINE WITH TWO WIRES FROM D1 AND D2. ]

CHG. E.C.O. DATE APPR.

Issue — 6-4-73 RJA
SWLIST 1 LN=1

WIRE LIST FOR CODE SWITCH

1S1 [YELLOW
   COMMON
   LABELLED "C"

2S1 [BLUE
   NORMALLY OPEN
   LABELLED "NO"

SWLIST
[TYPE IA FACEPLATE BOX WIRING LIST]

# >>>>>>>>>>>>>>>>>>>>
# 1A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 2A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 3A3
# 24D1 [ORANGE]
# 4A3
# 23D1 [RED]
# >>>>>>>>>>>>>>>>>>>>
# 5A3
# 33D1 [BLUE]
# 6A3
# 32D1 [RED]
# >>>>>>>>>>>>>>>>>>>>
# 7A3
# 31D1 [SLATE]
# 8A3
# 30D1 [YELLOW]
# >>>>>>>>>>>>>>>>>>>>
# 9A3
# 37D1 [ORANGE]
# 10A3
# 36D1 [YELLOW]
# >>>>>>>>>>>>>>>>>>>>
# 11A3
# 24D2 [ORANGE]
# 12A3
# 23D2 [RED]
# >>>>>>>>>>>>>>>>>>>>
# 13A3
# 33D2 [BLUE]
# 14A3
# 32D2 [RED]
# >>>>>>>>>>>>>>>>>>>>
# 15A3
# 31D2 [SLATE]

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<td>—</td>
<td>6-4-73</td>
<td>RJA</td>
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FPT1AWL.2  LN=72

16A3
30D2 [ YELLOW

17A3
37D2 [ ORANGE

18A3
36D2 [ YELLOW

19A3
22D1 [ BLUE

20A3
22D2 [ BLUE

21A3
21D1 [ BROWN

22A3
20D1 [ YELLOW

23A3
17D1 [ GREEN

24A3
16D1 [ YELLOW

25A3
28D1 [ SLATE

26A3
27D1 [ WHITE

27A3
26D1 [ BROWN

28A3
25D1 [ RED

29A3
21D2 [ BROWN

30A3
20D2 [ YELLOW

31A3
17D2 [ GREEN
32A3
16D2 [ YELLOW
#
   >>>>>>>>>>>>>>>>>>
33A3
28D2 [ SLATE
#
34A3
27D2 [ WHITE
#
   >>>>>>>>>>>>>>>>>>
35A3
26D2 [ BROWN
#
36A3
25D2 [ RED
   >>>>>>>>>>>>>>>>>>
37A3 [ NO CONNECTION
#
38A3 [ NO CONNECTION
   >>>>>>>>>>>>>>>>>>
39A3
9D1 [ ORANGE
#
40A3
8D1 [ WHITE
#
   >>>>>>>>>>>>>>>>>>
41A3
15D1 [ GREEN
#
42A3
14D1 [ RED
#
   >>>>>>>>>>>>>>>>>>
43A3
13D1 [ GREEN
#
44A3
12D1 [ WHITE
#
   >>>>>>>>>>>>>>>>>>
45A3
11D1 [ BROWN
#
46A3
10D1 [ WHITE
#
   >>>>>>>>>>>>>>>>>>
47A3
9D2 [ ORANGE
#
48A3
8D2 [ WHITE
#
FPT1AWL,4 LN=254

49A3
15D2 [ green
#
50A3
14D2 [ red

51A3 [ no connection
#
52A3 [ no connection
#
53A3
13D2 [ brown
#
54A3
12D2 [ white
#
55A3
11D2 [ brown
#
56A3
10D2 [ white
#
57A3
96F [ blue
#
58A3
9AF [ white
#
59A3
108F [ green
#
60A3
10AF [ white
#
61A3
18D2 [ violet
#
62A3
19D2 [ blue
#
63A3
18D1 [ violet
#
64A3
19D1 [ blue
#
65A3 [ no connection
#
FP1AWL.5  LN=345

66A3  [NO CONNECTION
#
67A3  [NO CONNECTION
#
68A3  [NO CONNECTION
#

69A3  8BF [ SLATE
#
70A3  8AF [ WHITE
#

71A3  6D1 [ VIOLET
#
72A3  7D1 [ ORANGE
#
73A3  6D2 [ VIOLET
#
74A3  7D2 [ ORANGE
#
75A3  29D2 [ GREEN
#
76A3  29D1 [ GREEN
#
77A3  [-six wire blue wire with ground lug
[CONNECT TO D1
#
78A3  1S1 [ YELLOW
#

TWO WIRES ARE SOLVERED TO PIN 77A3, ONE TO 1AF AND THE OTHER TO 1BF.
THERE IS A WIRE FROM 1AF TO 5D1 AND A WIRE FROM 1BF TO 5D2

1AF [ YELLOW
5D1 [ YELLOW
1BF [ YELLOW
5D2 [ YELLOW

301A-19
C 80A3 [ SIX INCH BLUE WIRE WITH GROUND LUG
C CONNECT TO D2
# >>>>>>>>>>>>>>>>>>>
81A3
2S1 [BLUE
# >>>>>>>>>>>>>>>>>>>
82A3
7AF [ YELLOW
# >>>>>>>>>>>>>>>>>>>
83A3
5AF [ WHITE
# 84A3
5BF [ GREEN
# >>>>>>>>>>>>>>>>>>>
85A3
4AF [ YELLOW
# 86A3
4BF [ BROWN
# >>>>>>>>>>>>>>>>>>>
87A3
3AF [ RED
# 88A3
3BF [ SLATE
# >>>>>>>>>>>>>>>>>>>
89A3
2AF [ WHITE
# 90A3
2BF [ BLUE
# >>>>>>>>>>>>>>>>>>>
C
C THE FOLLOWING CONNECTIONS ARE RESISTORS WITH THEIR LEADS CRIMPED DIRECTLY INTO THE INDICATED CONNECTOR CONTACTS. THE EXPOSED PORTION OF THE LEADS SHALL BE COVERED BY TEFLOM SLEEVING. THE COLOR CODE MAY BE IGNORED.
C
# >>>>>>>>>>>>>>>>>>>
1D1 [ RED
1R601
# 2D1 [ SLATE
2R601
# >>>>>>>>>>>>>>>>>>>
1D2 [ RED
1R602
FPT1AWL, 7  LN=523

# 2D2 [ SLATE
  2P602
#

 >>>>>>>>>>>>>>>>>>>>
  3D1 [ YELLOW
  1R603
#

  4D1 [ BLUE
  2R603
#

 >>>>>>>>>>>>>>>>>>>>
  3D2 [ YELLOW
  1R604
#

  4D2 [ BLUE
  2R604
#

 >>>>>>>>>>>>>>>>>>>>
  34D1 [ WHITE
  1R605
#

  35D1 [ BLUE
  2P605
#

 >>>>>>>>>>>>>>>>>>>>
  34D2 [ WHITE
  1R606
#

  35D2 [ BLUE
  2R606
#

 [END OF CONNECTION LIST
 [CFPT1AWL

301A-21
## TYPE 2 FACEPLATE BOX

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<td>TYPE 2 FACEPLATE BOX PARTS LIST</td>
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<td>TYPE 2 FACEPLATE BOX - INTRODUCTION AND ASSEMBLY PROCEDURE</td>
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<td>TYPE 2 FPB ASSEMBLY</td>
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<td>TYPE 2 FPB REAR CONNECTOR BLOCK - ASSEMBLY ORIENTATION</td>
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<td>TYPE 2 FPB VISCERAL SUBASSEMBLY</td>
<td>A B</td>
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<td>TYPE 2 FPB FUNCTION CODE WIRING SUB-SUBASSEMBLY</td>
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<td>10/20/70</td>
<td>JAC</td>
<td>A</td>
<td>0229</td>
<td>11/16/71</td>
<td>RJ A</td>
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MACROMODULAR SYSTEMS PROJECT
## TYPE 2 FACEPLATE BOX
### PARTS LIST

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<td>1-CELL FPB SHELL</td>
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<td>1</td>
<td>300.5-8</td>
<td>TYPE 2 FACEPLATE</td>
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<td>FPB CONNECTOR BRACKET</td>
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<td>300.5-5</td>
<td>FPB KEY</td>
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<tr>
<td>2</td>
<td>300.0</td>
<td>FPB REAR CONNECTOR</td>
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<td>300.0</td>
<td>COAXICON</td>
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<td>24</td>
<td>300.0</td>
<td>FERRULE</td>
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<tr>
<td>1</td>
<td>300.0</td>
<td>WIRE (SEE 302-10 ff FOR COLOR CODE)</td>
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<tr>
<td>1</td>
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<td>1/16 X 1/4 CADMIUM PLATED STEEL ROLL PIN</td>
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<td>1</td>
<td>300.7-4</td>
<td>TYPE-2 FUNCTION CODE SWITCH SUBASSEMBLY</td>
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<td>1</td>
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<td>VLIER NS-51N SPRING PLUNGERS</td>
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<td>6</td>
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<td>3/16 X 2-56 FILLISTER HEAD SS MACHINE SCREW</td>
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<td>300.5-12</td>
<td>FPB REAR CONNECTOR FILLER STRIP</td>
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### CHANGE SUMMARY

- **ISSUE:** A 0059
- **DATE:** 10-20-70
- **APPR:** [Signature]

**MACROMODULAR SYSTEMS PROJECT** 302-2
TYPE 2 FACEPLATE BOX

INTRODUCTION

This document (302) describes the assembly of the Type 2 Faceplate Box. A list of all required parts, including sub-assemblies specified in other documents, is given on page 302-2. 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 2 Faceplate Box Wiring List (pages 302-10 ff).

ASSEMBLY PROCEDURE

A. Type 2 Faceplate Sub-subassembly (see page 302-9)

1. Crimp-wire the set of twenty-four coaxicon control connectors and press the resulting pre-wired connectors into the faceplate in the locations shown on page 302-9 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. 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).

4. Following the Type 2 Faceplate box wiring list, wire the leads from the coaxicon control connectors to one of the FPB rear connectors (A3).

B. Type 2 FPB Function Code wiring Sub-subassembly (see page 302-8).

1. Jumper the Type 2 Function Code Switch Sub-assembly and wire it to a second FPB Rear Connector (A4).
C. Type 2 Visceral Subassembly (see page 302-7)

1. Mount the FPB rear connector Filler Strip on the two connector brackets with connector bracket screws, as shown on page (302-6). 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. Mount the Function Code Switch Subassembly on the faceplate using two 2-56 fillister head screws. The sense pins must operate freely.

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

4. 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 302-5)

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.
NOTE ORIENTATION

TOP COVER PLATE

TOP OVERLAY CLIP

MOUNTING SCREWS

I-CELL FPB SHELL

FIXED ROLL PIN STUD

TYPE 2 FPB VISCERAL SUBASSEMBLY

(SEE PAGE 302-7)
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
SHRINK TUBING OPTIONAL TO PREVENT BREAKAGE DURING ASSEMBLY

FPB REAR CONNECTOR A3

FPB KEY

FPB REAR CONNECTOR A4

FPB REAR CONNECTOR FILLER STRIP

TYPE 2 FACEPLATE SUB-SUBASSEMBLY
(SEE PAGE 302-9)

TYPE 2 FPB FUNCTION CODE WIRING SUB-SUBASSEMBLY
(SEE PAGE 301-8)

FPB CONNECTOR BRACKET SCREWS

FPB CONNECTOR BRACKET
TYPE 2 FPB FUNCTION CODE SWITCH
SUBASSEMBLY

FPB REAR CONNECTOR
A4
PRESS-FIT PREWIRED COAXICONS

SPRING PLUNGER

TYPE 2 FACEPLATE

FPB REAR CONNECTOR A3

NOTE ORIENTATION

ROLL PIN SUNK FLUSH WITH REAR SURFACE

G1 G2 G3 G4 G5 G6 G7 G8
G10 G11 G12 G18 G19 G20 G21
G22 G23 G24

MACROMODULAR PROJECT

COMPUTER SYSTEMS LABORATORY
WASHINGTON UNIVERSITY
ST. LOUIS, MISSOURI

TYPE 2 FACEPLATE SUB-SUBASSEMBLY

ISSUE DATE

CHANGE NO.

MACROMODULAR PROJECT

WAC

DRAWN BY

302-9

8-24-70
FPT2WL,1 LN=1

[FPT2C]
[WIRING LIST FOR TYPE TWO FACEPLATE BOX]

# >>>>>>>>>>>>>>>>>>>>>>
# 1A3
# 3G7 [ BLUE
# 3G6 [ BLUE
# >>>>>>>>>>>>>>>>>>>>>> 2A3
# 3G19 [ BLUE
# 3G20 [ BLUE
# >>>>>>>>>>>>>>>>>>>>>> 3A3
# 1G24 [ YELLOW
# 4A3
# 2G24 [ GREEN
# >>>>>>>>>>>>>>>>>>>>>> 5A3
# 1G23 [ YELLOW
# 6A3
# 2G23 [ ORANGE
# >>>>>>>>>>>>>>>>>>>>>> 7A3
# 1G20 [ RED
# 8A3
# 2G20 [ BROWN
# >>>>>>>>>>>>>>>>>>>>>> 9A3
# 1G19 [ RED
# 10A3
# 2G19 [ GREEN
# >>>>>>>>>>>>>>>>>>>>>> 11A3
# 1G22 [ YELLOW
# 12A3
# 2G22 [ BLUE
# >>>>>>>>>>>>>>>>>>>>>> 13A3
# 1G21 [ RED
14A3
2G21 [ SLATE
#
>>>>>>>>>>>>>>>>
15A3
1G18 [ RED
#
16A3
2G18 [ ORANGE
#
>>>>>>>>>>>>>>>>
17A3
1G17 [ RED
#
18A3
2G17 [ BLUE
#
>>>>>>>>>>>>>>>>
19A3
3G23 [ BLUE
3G24 [ BLUE
#
>>>>>>>>>>>>>>>>
20A3
3G5 [ BLUE
3G6 [ BLUE
#
>>>>>>>>>>>>>>>>
21A3 [ NO CONNECTION
#
22A3 [ NO CONNECTION
#
23A3 [ NO CONNECTION
#
24A3 [ NO CONNECTION
#
25A3 [ NO CONNECTION
#
26A3 [ NO CONNECTION
#
27A3 [ NO CONNECTION
#
28A3 [ NO CONNECTION
#
29A3 [ NO CONNECTION
#
30A3 [ NO CONNECTION
#
31A3 [ NO CONNECTION
#
32A3 [ NO CONNECTION
#
>>>>>>>>>>>>>>>>
33A3
1G8 [ YELLOW
#
34A3
2G8 [GREEN
#
>>>>>>>>
35A3
1G7 [YELLOW
#
36A3
2G7 [ORANGE
#
>>>>>>>>
37A3
3G17 [BLUE
3G18 [BLUE
#
>>>>>>>>
38A3
3G21 [BLUE
3G22 [BLUE
#
>>>>>>>>
39A3
1G4 [WHITE
#
40A3
2G4 [BROWN
#
>>>>>>>>
41A3
1G3 [WHITE
#
42A3
2G3 [GREEN
#
>>>>>>>>
43A3
1G6 [YELLOW
#
44A3
2G6 [BLUE
#
>>>>>>>>
45A3
1G5 [WHITE
#
46A3
2G5 [SLATE
#
>>>>>>>>
47A3
1G2 [WHITE
#
48A3
2G2 [ORANGE
#
>>>>>>>>
49A3
1G1 [WHITE

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302-12
FPT2ML.4 LN=254

50A3
2611 [ BLUE

>>>>>>>>>>>>>>>>>>
51A3
363 [ BLUE
364 [ BLUE

>>>>>>>>>>>>>>>>>>
52A3
3611 [ BLUE
3612 [ BLUE

>>>>>>>>>>>>>>>>>>
53A3 [ NO CONNECTION
54A3 [ NO CONNECTION
55A3 [ NO CONNECTION
56A3 [ NO CONNECTION

>>>>>>>>>>>>>>>>>>
57A3
1616 [ YELLOW

56A3
2616 [ GREEN

>>>>>>>>>>>>>>>>>>
59A3
1615 [ YELLOW

60A3
2615 [ ORANGE

>>>>>>>>>>>>>>>>>>
61A3
1612 [ RED

62A3
2612 [ RED

>>>>>>>>>>>>>>>>>>
63A3
1611 [ RED

64A3
2611 [ GREEN

>>>>>>>>>>>>>>>>>>
65A3
3615 [ BLUE
3616 [ BLUE

>>>>>>>>>>>>>>>>>>

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302-13
66A3  
361 [ BLUE  
362 [ BLUE

67A3  
1G14 [ YELLOW

68A3  
2614 [ BLUE

69A3  
1G13 [ RED

70A3  
2613 [ SLATE

71A3  
1G10 [ RED

72A3  
2G10 [ ORANGE

73A3  
169 [ RED

74A3  
269 [ BLUE

75A3 [ NO CONNECTION

76A3 [ NO CONNECTION

77A3  
90A4 [ YELLOW

78A3  
369 [ BLUE

79A3 [ NO CONNECTION

80A3  
3613 [ BLUE

81A3 [ NO CONNECTION
SWITCHES ARE WIRED WITH SINGLE WIRES

82A3 [NO CONNECTION
# 83A3 [NO CONNECTION
# 84A3 [NO CONNECTION
# 85A3 [NO CONNECTION
# 86A3 [NO CONNECTION
# 87A3 [NO CONNECTION
# 88A3 [NO CONNECTION
# 89A3 [NO CONNECTION
# 90A3 [NO CONNECTION
#

END OF WIRING LIST
# TYPE 3 FACEPLATE BOX

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<td>TYPE 3 FPB REAR CONNECTOR BLOCK - ASSEMBLY ORIENTATION</td>
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<td>TYPE 3 VISERAL SUBASSEMBLY</td>
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MACROMODULAR SYSTEMS PROJECT
## TYPE 3 FACEPLATE BOX
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<td>FPB KEY</td>
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<td>ASTRO 348 REAR NUT</td>
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<td>3</td>
<td>300.0</td>
<td>ASTRO 348 CONTACT RETENTION DISC</td>
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<td>300.0</td>
<td>ASTRO 348 INTERFACIAL SEAL</td>
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<tr>
<td>108</td>
<td>300.0</td>
<td>ASTRO 348 MALE CONTACT</td>
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<tr>
<td>3</td>
<td>300.0</td>
<td>ASTRO 348 RECEPTACLE SHELL</td>
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<tr>
<td>1</td>
<td>–</td>
<td>VLIEER -NS- 5 IN SPRING PLUNGER</td>
</tr>
<tr>
<td>3</td>
<td>–</td>
<td>NO. 2 SERRATED-HOLE SOLDER LUG</td>
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<tr>
<td>28</td>
<td>–</td>
<td>3/16 X 2-56 FILLISTER HEAD SS MACHINE SCREW</td>
</tr>
<tr>
<td>6</td>
<td>–</td>
<td>130 OHM 1/8 WATT 5% CARBON RESISTOR</td>
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MACROMODULAR SYSTEMS PROJECT
INTRODUCTION

This document (303) describes the assembly of the Type 3 Faceplate Box. A list of all required parts, including subassemblies specified in other documents, is given on page 303-2. 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 3 Faceplate Box Wiring List (pages 303-10 ff).

ASSEMBLY PROCEDURE

A. Type 3 Faceplate Sub-subassembly (see page 303-9)

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 303-9 using 2-56 fillister head screws. NOTE THE ORIENTATION REQUIRED.

B. Type 3 FPB Interwiring Sub-subassembly (see page 303-8)

1. Connectors D1, D2 and D3
   Following the Type 3 Faceplate Box Wiring List, crimp the wire pairs and the six 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 connector A3, together with three solder-lug leads.

C. Type 3 Visceral Subassembly (see page 303-7)

1. Install the contact retention disc assemblies in the corresponding receptacle shells for D1, D2 and D3 (shown on page 303-9) and hand-tighten the ASTRO 348 Rear Nuts.
2. Attach the solder lugs to the receptacle shells as shown.

3. 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 303-6).

**D. Final Assembly (see page 303-5)**

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 bracket, 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.
NOTE ORIENTATION
FPB REAR CONNECTOR A3

FPB KEY

V-BUS SUBASSEMBLY

KEY TAB EXTENDS LEFTWARDS

NOTE ORIENTATION OF EACH PART
(D1)  (D2)  (D3)

NOTE ORIENTATION

TYPE 3 FACEPLATE

ASTER STANDOFF

SMEEPING PLUNGER

ASTRO 348 RECEPTACLE SHELLS

COMPUTER SYSTEMS LABORATORY
WASHINGTON UNIVERSITY
ST. LOUIS, MISSOURI

MACROMODULAR PROJECT

TYPE 3 FACEPLATE SUB-SUBASSEMBLY

ISSUE 9/15/70  WA

CHANGE NO.  DATE  DESCRIPTION

TITLE

COMMENTS

NOTE: ORIENTATION

COMMENTS

DRAWING NO. 303-9

DRAWN BY DHO

CHECKED  DATE  8-24-70
TYPE THREE FACEPLATE BOX WIRING LIST

# 1A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>
# 2A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>
# 3A3
# 24D1 [ ORANGE]
# 4A3
# 23D1 [ RED]
# >>>>>>>>>>>>>>>>>>>
# 5A3
# 33D1 [ BLUE]
# 6A3
# 32D1 [ RED]
# >>>>>>>>>>>>>>>>>>>
# 7A3
# 31D1 [ SLATE]
# 8A3
# 30D1 [ YELLOW]
# >>>>>>>>>>>>>>>>>>>
# 9A3
# 37D1 [ ORANGE]
# 10A3
# 36D1 [ YELLOW]
# >>>>>>>>>>>>>>>>>>>
# 11A3
# 24D2 [ ORANGE]
# 12A3
# 23D2 [ RED]
# >>>>>>>>>>>>>>>>>>>
# 13A3
# 33D2 [ BLUE]
# 14A3
# 32D2 [ RED]
# >>>>>>>>>>>>>>>>>>>
# 15A3
# 31D2 [ SLATE]
# 16A3

CHG  E.C.O.  DATE APPR.
---  ----  ----  ----
~  9/15/70  96A
A  0041  10/5/70  SCJ
30D2 ( YELLOW 
# >>>>>>>>>>>>>>>>>>
17A3
37D2 ( ORANGE 
#
18A3
36D2 ( YELLOW 
# >>>>>>>>>>>>>>>>>>
19A3
22D1 ( BLUE 
#
20A3
22D2 ( BLUE 
#
>>>>>>>>>>>>>>>>>
21A3
21D1 ( BROWN 
#
22A3
20D1 ( YELLOW 
#
>>>>>>>>>>>>>>>>>
23A3
17D1 ( GREEN 
#
24A3
16D1 ( YELLOW 
#
>>>>>>>>>>>>>>>>>
25A3
28D1 ( SLATE 
#
26A3
27D1 ( WHITE 
#
>>>>>>>>>>>>>>>>>
27A3
26D1 ( BROWN 
#
28A3
25D1 ( RED 
#
>>>>>>>>>>>>>>>>>
29A3
21D2 ( BROWN 
#
30A3
20D2 ( YELLOW 
#
>>>>>>>>>>>>>>>>>
31A3
17D2 ( GREEN 
#
32A3
16D2 ( YELLOW
FPT3W/L4  LN=254

15D2  [GREEN]
# 50A3
14D2  [RED]
#

51A3  [NO CONNECTION]
#
52A3  [NO CONNECTION]
#
53A3
13D2  [GREEN]
#
54A3
12D2  [WHITE]
#
55A3
11D2  [BROWN]
#
56A3
10D2  [WHITE]
#
57A3
18D3  [VIOLET]
#
58A3
19D3  [BLUE]
#
59A3
6D3  [VIOLET]
#
60A3
7D3  [ORANGE]
#
61A3
18D2  [VIOLET]
#
62A3
19D2  [BLUE]
#
63A3
18D1  [VIOLET]
#
64A3
19D1  [BLUE]
#
65A3  [NO CONNECTION]
#
66A3  [SIX INCH WIRE WITH GROUND LUG]
[CONNECT TO D1]
# 67A3 [NO CONNECTION
# 68A3 [NO CONNECTION
# 69A3 [NO CONNECTION
# 70A3 [NO CONNECTION
#
# >>>>>>>>>>>>>>>>>>>>
71A3
6D1 [ VIOLET
#
72A3
7D1 [ ORANGE
#
# >>>>>>>>>>>>>>>>>>>>
73A3
6D2 [ VIOLET
#
74A3
7D2 [ ORANGE
#
# >>>>>>>>>>>>>>>>>>>>
75A3
29D2 [ GREEN
#
76A3
29D1 [ GREEN
#
# >>>>>>>>>>>>>>>>>>>>
[TREE WIRES ARE SOLDERED TO PIN 77A3
77A3
5D1 [ YELLOW
5D2 [ YELLOW
5D3 [ YELLOW
#
78A3 [ SIX INCH BLUE WIRE WITH GROUND LUG
[CONNECT TO D2
#
79A3 [NO CONNECTION
#
80A3 [ SIX INCH BLUE WIRE WITH GROUND LUG
[CONNECT GROUND LUG TO CONNECTOR D3
#
81A3 [NO CONNECTION
#
82A3
22D3 [ BLUE
#
# >>>>>>>>>>>>>>>>>>>>
83A3
24D3 [ ORANGE
#
84A3
23D3 [ RED
#
THE FOLLOWING CONNECTIONS ARE RESISTORS WITH THEIR LEADS CRIMPED DIRECTLY INTO THE INDICATED CONNECTOR CONTACTS. THE EXPOSED PORTION OF THE LEADS SHALL BE COVERED BY TEFLOM SLEEVING. THE COLOR CODE MAY BE IGNORED.

1D1 [ RED
1R601

2D1 [ SLATE
2R601

1D2 [ RED
1R602

2D2 [ SLATE
2R602

3D1 [ YELLOW
1R603

4D1 [ BLUE
2R603

3D2 [ YELLOW
1R604

4D2 [ BLUE
2R604

34D1 [ WHITE
FPT3WL, 7  LN=524

1R605
#
35D1 ( BLUE
2R605
#

34D2 ( WHITE
1R606
#
3SD2 ( BLUE
2R606
#

[END OF WIRING LIST
[TYPE THREE FACEPLATE COPPER LIST
[FPT3WL
(GERALD C JOHNS
(22 JULY 1970
### PAGE | TITLE | CHANGE
--- | --- | ---
304-1 | TITLE PAGE | A
304-2 | TYPE 4 FACEPLATE BOX PARTS LIST |  
304-3 | TYPE 4 FACEPLATE BOX – INTRODUCTION AND ASSEMBLY PROCEDURE |  
304-4 | TYPE 4 FPB ASSEMBLY |  
304-5 | TYPE 4 FPB REAR CONNECTOR BLOCK—ASSEMBLY ORIENTATION |  
304-6 | TYPE 4 FPB VISCERAL SUBASSEMBLY |  
304-7 | TYPE 4 FPB INTERWIRING SUB—SUBASSEMBLY |  
304-8 | TYPE 4 FACEPLATE SUB—SUBASSEMBLY |  
304-9 | TYPE 4 FACEPLATE BOX WIRING LIST | A
## TYPE 4 FACEPLATE BOX

### PARTS LIST

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<td>ASTRO 348 CONTACT RETENTION DISC</td>
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<td>ASTRO 348 INTERFACIAL SEAL</td>
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<td>1</td>
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<td>NO. 2 SERRATED-HOLE SOLDER LUG</td>
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<tr>
<td>12</td>
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<td>3/16 X 2-56 FILLISTER HEAD SS MACHINE SCREW</td>
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<td>-</td>
<td>300.0</td>
<td>WIRE (SEE 304-10 ff FOR COLOR CODE)</td>
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MACROMODULAR SYSTEMS PROJECT

304-2
TYPE 4 FACEPLATE BOX

INTRODUCTION

This document (304) describes the assembly of the Type 4 Faceplate Box. A list of all required parts, including sub-assemblies specified in other documents, is given on page 304-2. 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 4 Faceplate Box Wiring List (pages 304-10 ff).

ASSEMBLY PROCEDURE

A. Type 4 Faceplate Sub-subassembly (see page 304-9)

1. Crimp-wire the set of nine coaxicon control connectors and press the resulting pre-wired connectors into the faceplate in the locations shown on page 304-9, 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 ASTRO 348 receptacle shell via the ASTRO standoffs to the faceplate as shown on page 304-9 using 2-56 fillister head screws. NOTE THE ORIENTATION REQUIRED.

B. Type 4 FPB Interwiring Sub-subassembly (see page 304-8)

1. Connector D1:
   Following the Type 4 Faceplate Box Wiring List, crimp the wire pairs and the three resistors into the ASTRO 348 male contacts and insert the contacts into the contact retention disc (pin numbering is stamped in the receptacle shell). Apply the interfacial seal and slip on the rear nut.

2. Wire to the FPB rear connector A3, together with solder-lug lead.

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304-3
C. Type 4 Visceral Subassembly (see page 304-7)

1. Wire the leads from the coaxicon control connectors to the FPB Rear Connector A3.

2. Install the contact retention disc assembly in the corresponding receptacle shell of D1 (shown on page 304-9) and hand-tighten the ASTRO 348 Rear Nut.

3. Attach the solder lug to the receptacle shell as shown.

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 304-6).

D. Final Assembly (see page 304-5)

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.
TYPE 4 FPB VISCERAL SUBASSEMBLY
(SEE PAGE 304-7)

NOTE ORIENTATION
FPB REAR CONNECTOR A3

FPB KEY

V-BUS SUBASSEMBLY

KEY TAB EXTENDS LEFTWARDS

NOTE ORIENTATION OF EACH PART
[TYPE FOUR FACEPLATE BOX WIRING LIST]

# 1A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 2A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 3A3
# 2A3 [ORANGE]
# >>>>>>>>>>>>>>>>>>>>
# 4A3
# 23D1 [RED]
# >>>>>>>>>>>>>>>>>>>>
# 5A3
# 33D1 [BLUE]
# >>>>>>>>>>>>>>>>>>>>
# 6A3
# 32D1 [RED]
# >>>>>>>>>>>>>>>>>>>>
# 7A3
# 31D1 [SLATE]
# >>>>>>>>>>>>>>>>>>>>
# 8A3
# 30D1 [YELLOW]
# >>>>>>>>>>>>>>>>>>>>
# 9A3
# 37D1 [ORANGE]
# >>>>>>>>>>>>>>>>>>>>
# 10A3
# 36D1 [YELLOW]
# >>>>>>>>>>>>>>>>>>>>
# 11A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 12A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 13A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 14A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 15A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 16A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 17A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 18A3 [NO CONNECTION]
# >>>>>>>>>>>>>>>>>>>>
# 19A3
22D1 [ BLUE
#
   >>>>>>>>>>>>>>>>>>>>
20A3 [ NO CONNECTION
#
   >>>>>>>>>>>>>>>>>>>>
21A3
21D1 [ BROWN
#
22A3
20D1 [ YELLOW
   >>>>>>>>>>>>>>>>>>>>
#
23A3
17D1 [ GREEN
#
24A3
16D1 [ YELLOW
#
   >>>>>>>>>>>>>>>>>>>>
25A3
28D1 [ SLATE
#
26A3
27D1 [ WHITE
#
   >>>>>>>>>>>>>>>>>>>>
27A3
26D1 [ BROWN
#
28A3
25D1 [ RED
#
   >>>>>>>>>>>>>>>>>>>>
29A3 [ NO CONNECTION
#
30A3 [ NO CONNECTION
#
31A3 [ NO CONNECTION
#
32A3 [ NO CONNECTION
#
33A3 [ NO CONNECTION
#
34A3 [ NO CONNECTION
#
35A3 [ NO CONNECTION
#
36A3 [ NO CONNECTION
   >>>>>>>>>>>>>>>>>>>>
#
37A3
3G5 [ BLUE
#
   >>>>>>>>>>>>>>>>>>>>
38A3
3G9 [ BLUE
FPT4WL.3  LN=163

# >>>>>>>>>>>>>>>>>>>
# 39A3
# 9D1 [ ORANGE
# 40A3
# 8D1 [ WHITE
# >>>>>>>>>>>>>>>>>>>
# 41A3
# 15D1 [ GREEN
# 42A3
# 14D1 [ RED
# >>>>>>>>>>>>>>>>>>>
# 43A3
# 13D1 [ GREEN
# 44A3
# 12D1 [ WHITE
# >>>>>>>>>>>>>>>>>>>
# 45A3
# 11D1 [ BROWN
# 46A3
# 10D1 [ WHITE
# >>>>>>>>>>>>>>>>>>>
# 47A3
# 1G2 [ WHITE
# 48A3
# 2G2 [ ORANGE
# >>>>>>>>>>>>>>>>>>>
# 49A3
# 1G3 [ WHITE
# 50A3
# 2G3 [ GREEN
# >>>>>>>>>>>>>>>>>>>
# 51A3
# 3G4 [ BLUE
# 3G6 [ BLUE
# >>>>>>>>>>>>>>>>>>>
# 52A3
# 3G3 [ BLUE
# 3G7 [ BLUE
# >>>>>>>>>>>>>>>>>>>
# 53A3
# 1G4 [ WHITE
#
FPT4WL.4  LN=254

54A3
2G4 [ BROWN
#
>>>>>>>>>>>>>>>>>
55A3
1G5 [ WHITE
#
56A3
2G5 [ SLATE
#
>>>>>>>>>>>>>>>>>
57A3
1G6 [ YELLOW
#
58A3
2G6 [ BLUE
#
>>>>>>>>>>>>>>>>>
59A3
1G7 [ YELLOW
#
60A3
2G7 [ ORANGE
#
>>>>>>>>>>>>>>>>>
61A3
1G8 [ YELLOW
#
62A3
2G8 [ GREEN
#
>>>>>>>>>>>>>>>>>
63A3
18D1 [ VIOLET
#
64A3
19D1 [ BLUE
#
>>>>>>>>>>>>>>>>>
65A3
3G2 [ BLUE
#
>>>>>>>>>>>>>>>>>
66A3
3G6 [ BLUE
#
>>>>>>>>>>>>>>>>>
67A3
1G9 [ RED
#
68A3
2G9 [ BLUE
#
>>>>>>>>>>>>>>>>>
69A3
1G1 [ WHITE
#

304-13
70A3
2G1 [ BLUE
#
>------------------
71A3
6D1 [ VIOLET
#
72A3
7D1 [ ORANGE
#
>------------------
73A3 [ NO CONNECTION
#
74A3 [ NO CONNECTION
#
75A3 [ NO CONNECTION
#
>------------------
76A3
29D1 [ GREEN
>------------------
#
77A3
5D1 [ YELLOW
#
>------------------
78A3
3G1 [ BLUE
#
>------------------
79A3 [ NO CONNECTION
>------------------
#
80A3 [ SIX INCH BLUE WIRE WITH GROUND LUG
[CONNECT TO D1
#
>------------------
81A3 [ NO CONNECTION
#
>------------------
82A3 [ NO CONNECTION
#
>------------------
83A3 [ NO CONNECTION
#
>------------------
84A3 [ NO CONNECTION
#
>------------------
85A3 [ NO CONNECTION
#
>------------------
86A3 [ NO CONNECTION
#
>------------------
87A3 [ NO CONNECTION
#
THE FOLLOWING CONNECTIONS ARE RESISTORS WITH THEIR LEADS CRIMPED DIRECTLY INTO THE INDICATED CONNECTOR CONTACTS. THE EXPOSED PORTION OF THE LEADS SHALL BE COVERED BY TEFLOK SLEEVE. THE COLOR CODE MAY BE IGNORED.

1D1 [ RED
1R601

2D1 [ SLATE
2R601

3D1 [ YELLOW
1R602

4D1 [ BLUE
2R602

3A1 [ WHITE
1R603

35D1 [ BLUE
2R603

END OF WIRING LIST
This document is divided into two segments. The first segment, pages 100.1-1 through 100.1-5, contains the information necessary to duplicate Macro-module Faceplate Overlays and Overlay Labels plus a brief functional description of the Overlay.

The second segment of this volume contains the necessary procedures and wiring lists for the assembly of Macro-Module Faceplate Box types 1 through 4.
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<th>LINK B</th>
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