VOICE FREQUENCY TRANSMISSION UNITIZED DIGITAL TRANSMISSION FACILITIES TERMINAL, D4 CHANNEL BANKS WITH SMAS 3 OR SMAS 5 ACCESS CIRCUIT EQUIPMENT DESIGN REQUIREMENTS COMMON SYSTEMS

1. GENERAL

SCOPE

1.01 This specification, together with the supplementary information listed herein, describes equipment design requirements for utilization of existing and supplementary new designs in combined bay arrangements for D4 digital transmission. The unitized D4 digital transmission and switched maintenance access simplifies circuit testing, eliminates office wiring between equipment frames, and reduces wiring to the distributing frame.

1.02 This specification is reissued to rate J98733A, B, and C Mfr Disc.

DESCRIPTION

Bays

1.03 The J98733A bay (Mfr Disc) is shown in Fig 1 and in Fig 2 (option G only). The bay, of 11-foot 6-inch height, is an unequal flange cable duct-type bay which provides equipment for 192 circuits. Included in this bay are four D4 channel banks (ED-3C650-31); eight connectorized maintenance connector panels J98622BL, BK, or BT (Mfr Disc) for SMAS . One fuse and alarm panel ED-76201-( ) or one fuse, alarm and power distribution panel ED-97918-30 (when −72V extended range talk battery is required for the channel bank special service units), or fuse and alarm panel ED-1P466-( ) when option G VF attenuators are required. The J98733A (option G, Mfr Disc) provides options for six VF attenuators (NJ01061A) and one companion relay panel ED-76207-( ), for use with dial-up intertoll testing offices, and an option for two distribution networks (J1P033AB) for use with SMAS 5; an option for a manual access panel, type 2BX (J98622AU) and its companion communication patch and test panel (J98626AA) when maintenance connectors with MAC jacks (J98622BL,L2, and L3) are used. A communication panel (ED-3C660) is used when the type 3 (J98622BT) (Mfr Disc) or type 2 (J98622BL,L2) maintenance connector without MAC jacks are installed. A miscellaneously mounted D4 maintenance bank (MB) is available for centralized maintenance, testing and hot-monitored sparing of plug-in units for D4 channel banks. Normally only one D4 MB is required per office floor. The D4 MB may preferably be mounted in lieu of other equipment and if used will require special-order wiring. (See paragraph 5.02.)

Communication and manual access panels may be mounted in every third or fifth bay to be convenient considering the manual access cord pull-out length.

In a line of bays, where SMAS 5 is installed, a terminal strip (A) will be needed in every fifth bay to provide for wiring to miscellaneously mounted distribution networks in the first four bays. Communication and manual access panels may be mounted in every third, or fifth bay to be convenient, considering the manual access cord pull-out length.

1.04 The J98733B bay (Mfr Disc) shown in Fig 3 is a 9-foot 0-inch unequal flange cable duct-type bay which provides equipment for 144 circuits. Included in this bay are three D4 channel banks (ED-3C650-31), six connectorized maintenance connector

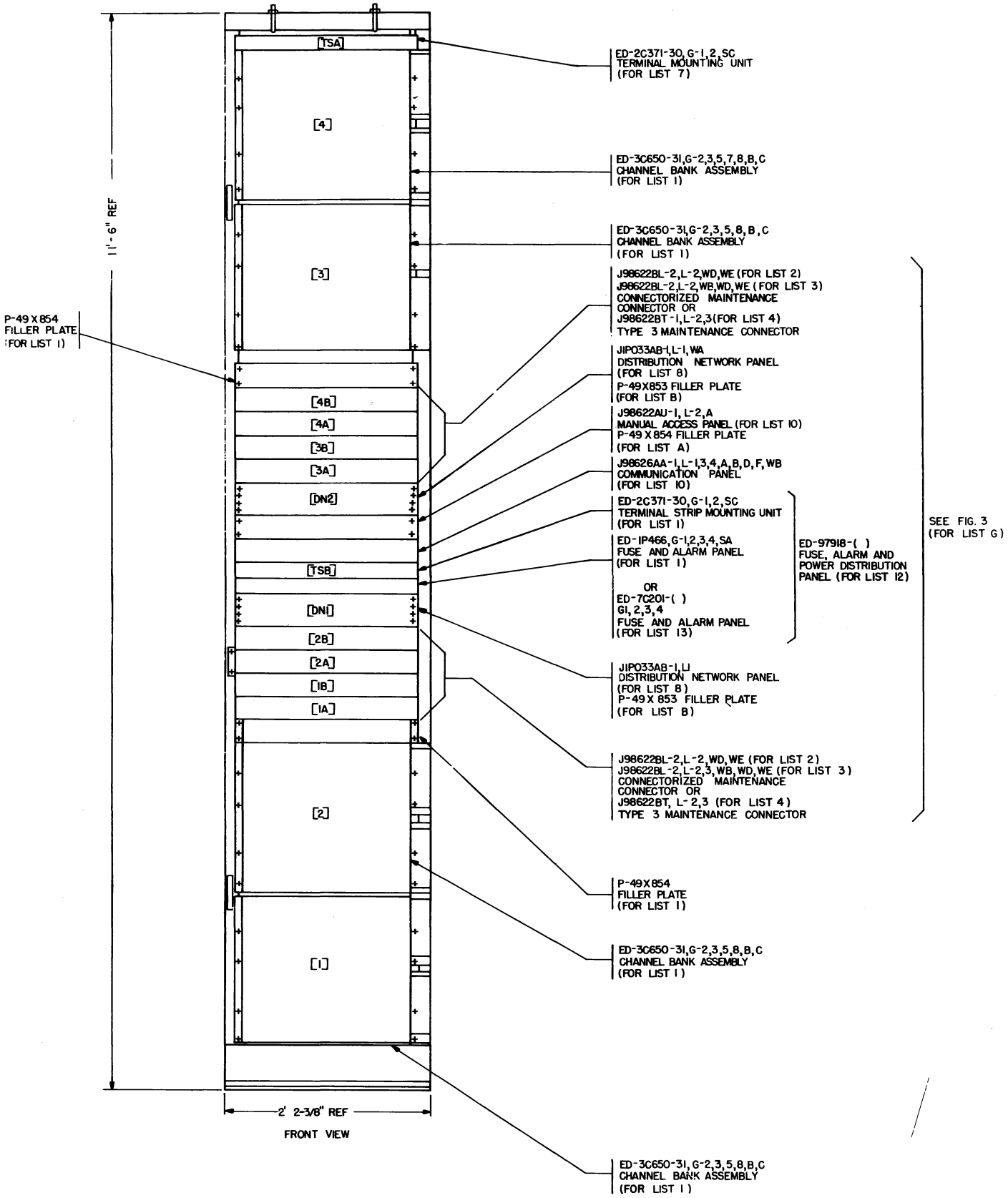

Fig 1—J98733A (Mfr Disc)

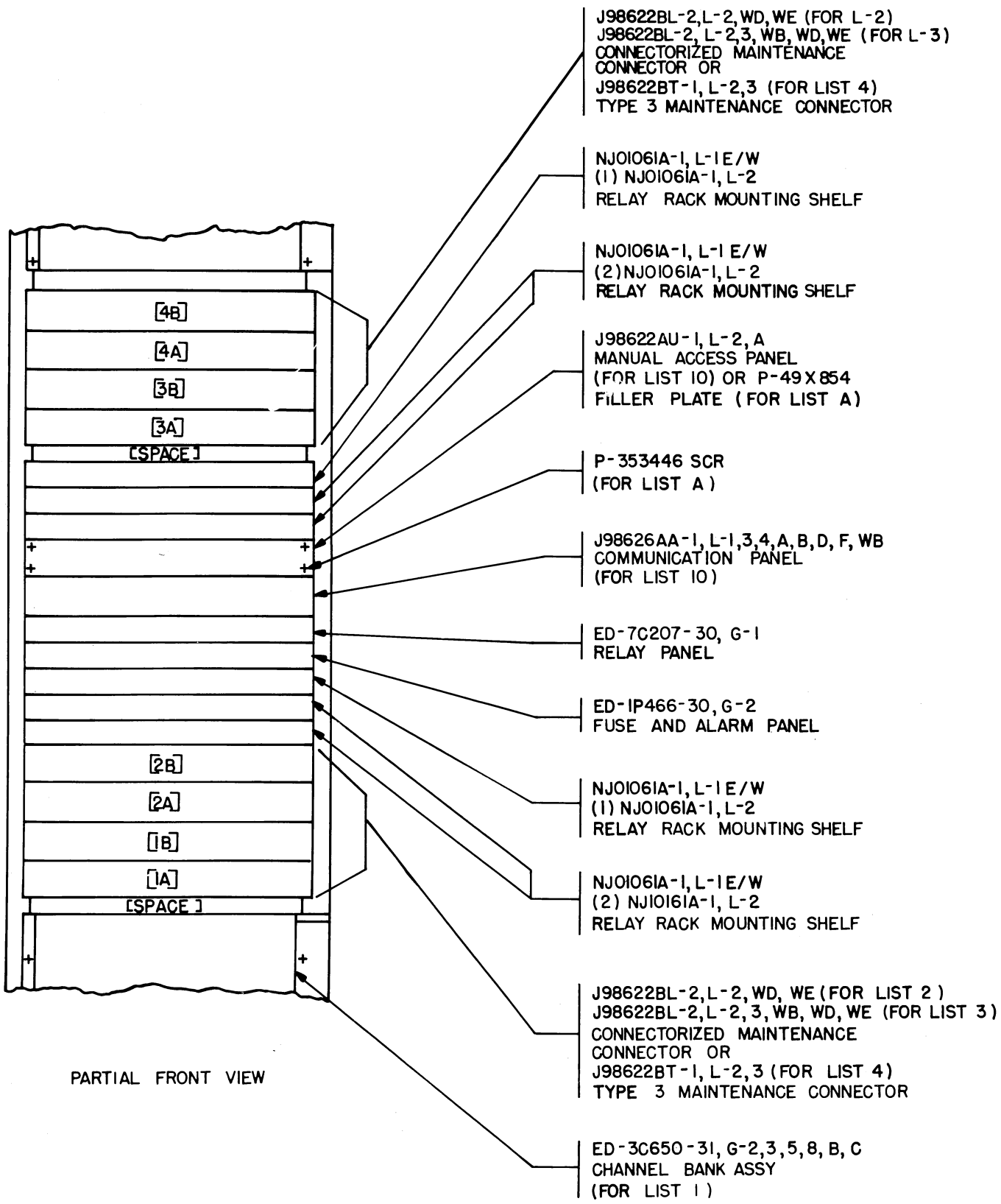

Fig 2—J98733A For Option G Only (Mfr Disc)

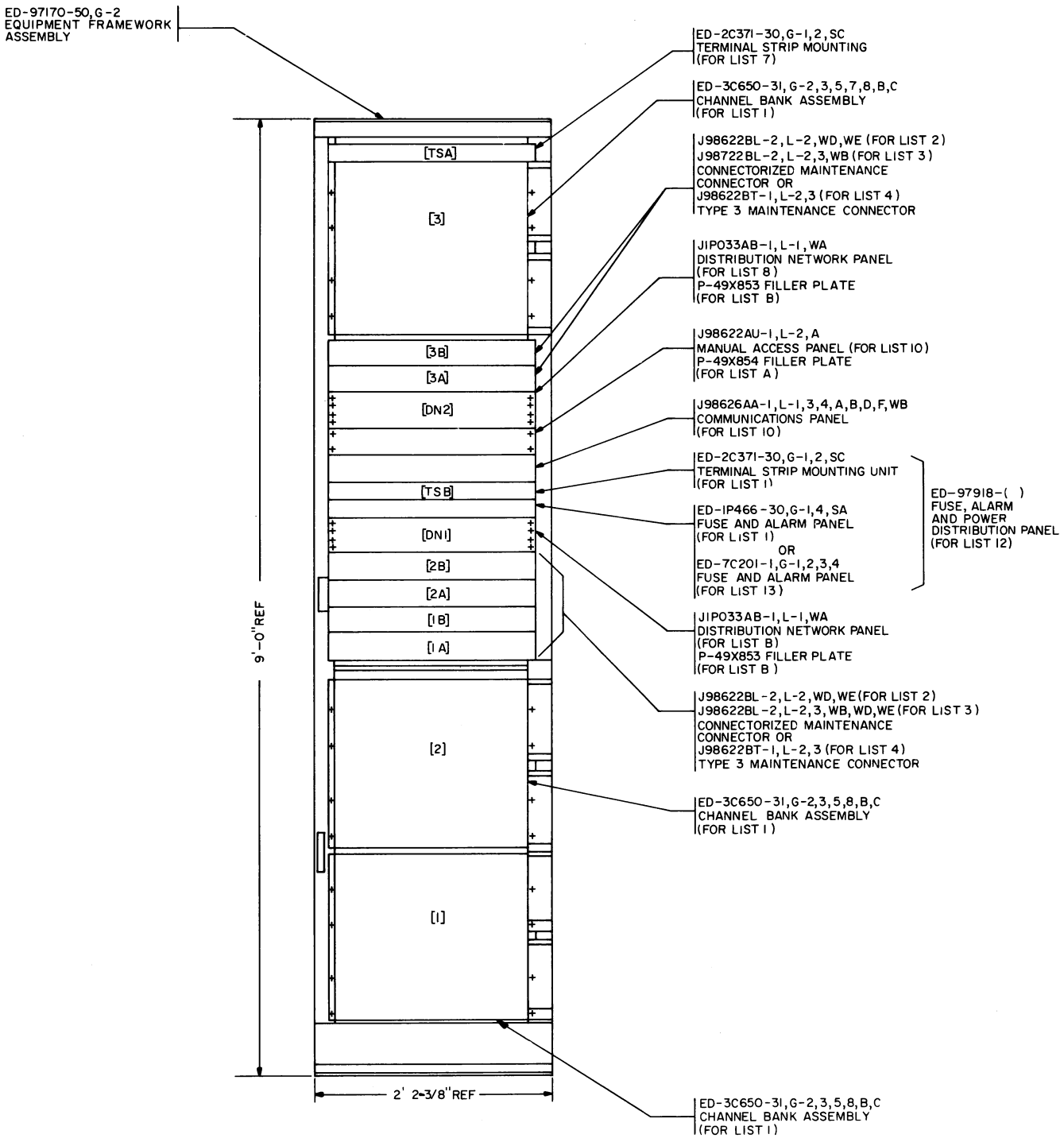

Fig 3—J98733B (Mfr Disc)

panels J98622BL, BK, or BT (Mfr Disc) for SMAS. One fuse and alarm panel ED-7C201-( ) or one fuse, alarm and power distribution panel ED-97918-( ) (when −72V extended range talk battery is required for the channel bank special service units), and an option for two distribution networks (J1P033AB) for use with SMAS 5; an option for a manual access panel, type 2BX (J98622AU) and its companion communication patch and test panel (J98626AA) when maintenance connectors with MAC jacks (J98622BL,L2 and L3 are used). A communication panel (ED-3C660) is used when the type 3 (J98622BT) (Mfr Disc) or type 2 (J98622BL,L2) maintenance connectors without MAC jacks are used. A miscellaneously mounted D4 maintenance bank (MB) is available for centralized maintenance, testing and hot-monitored sparing of plug-in units for D4 channel banks. Normally only one D4 MB is required per office floor. The D4 MB may preferably be mounted in lieu of other equipment and if used will require special-order wiring.

Communication and manual access panels may be mounted in every third, or fifth bay to be convenient, considering the manual access cord pull-out length.

In a line up of bays, when SMAS 5 is installed a terminal strip (A) will be needed in every third and fifth bay to provide for wiring to miscellaneously mounted distribution networks in the first, second and fourth bays.

1.05 The J98733C bay (Mfr Disc) shown in Fig 4 is a 7-foot 0-inch unequal flange cable duct-type bay which provides equipment for 96 circuits. Included in this bay are two D4 channel banks ED-3C650-( ), four connectorized maintenance connector panels J98622BL, BK, or BT (Mfr Disc) for SMAS. One fuse and alarm panel ED-7C201-( ) or one fuse, alarm and power distribution panel ED-97918-( ), (when −72V extender range talk battery is required for the channel bank special service units). The bay also has an option for one distribution network J1P033AB for use with SMAS 5; an option for a manual access panel, type 2BX (J98622AU) and its companion communication patch and test panel (J98626AA) to be used when maintenance connectors with MAC jacks J98622BL,L2 and L3 are used. A communication panel (ED-36660) is used when the type 3 (J98622BT) (Mfr Disc) or type 2 (J98622BL,L2) maintenance connectors without MAC jacks are used. A miscellaneously mounted D4 maintenance bank (MB) is available for centralized maintenance, testing and hot-monitored sparing of plug-in units for D4 channel banks. Normally only one D4 MB is required per office floor. The D4 MB may preferably be mounted in lieu of other equipment and if used will require special-order wiring.

Communication and manual access panels may be mounted in every third, or fifth bay to be convenient considering the manual access cord pull-out length.

In a line up of bays, where SMAS 5 is installed a terminal strip (A) will be needed in every fifth bay to provide for wiring to miscellaneously mounted distribution networks in the first four bays.

1.06 D4 Unitized Terminal Equipment (UTE) J98733D, E and F frames have been developed to utilize design improvements in the Switched Maintenance Access System 5A (SMAS 5A) equipment.

1.07 The J98733D frame shown in Fig 5 is an 11-foot 6-inch cable-duct type framework having provisions for five D4 channel banks, one maintenance connector controller (MCC), and ten maintenance connectors (MCs). It will accommodate front-mounted equipment for 240 channels.

1.08 The J98733E frame shown in Fig 6 is a 9-foot cable-duct type framework having provisions for four D4 channel banks, an optional MCC, and eight MCs. It will accommodate front-mounted equipment for 192 channels.

1.09 The J98733F frame shown in Fig 7 is a 7-foot cable-duct type framework having provisions for three D4 channel banks, an optional MCC, and six MCs. It will accommodate front-mounted equipment for 144 channels.

1.10 A −72 volt power converter panel, a communications panel, and a D4 maintenance bank may be installed miscellaneously for use with these frames. Space is available in the 11-foot 6-inch frame for the D4 maintenance bank or for the communications panel and/or the −72 volt converter panel. The 9-foot frame has space for a communications panel or −72 volt converter panel in every fifth frame. However, if all the D4 banks in the five frames require −72 volt talk battery, an additional −72 volt converter panel would have to be installed in the office on a miscellaneous basis. The 7-foot frame can accommodate either a communications

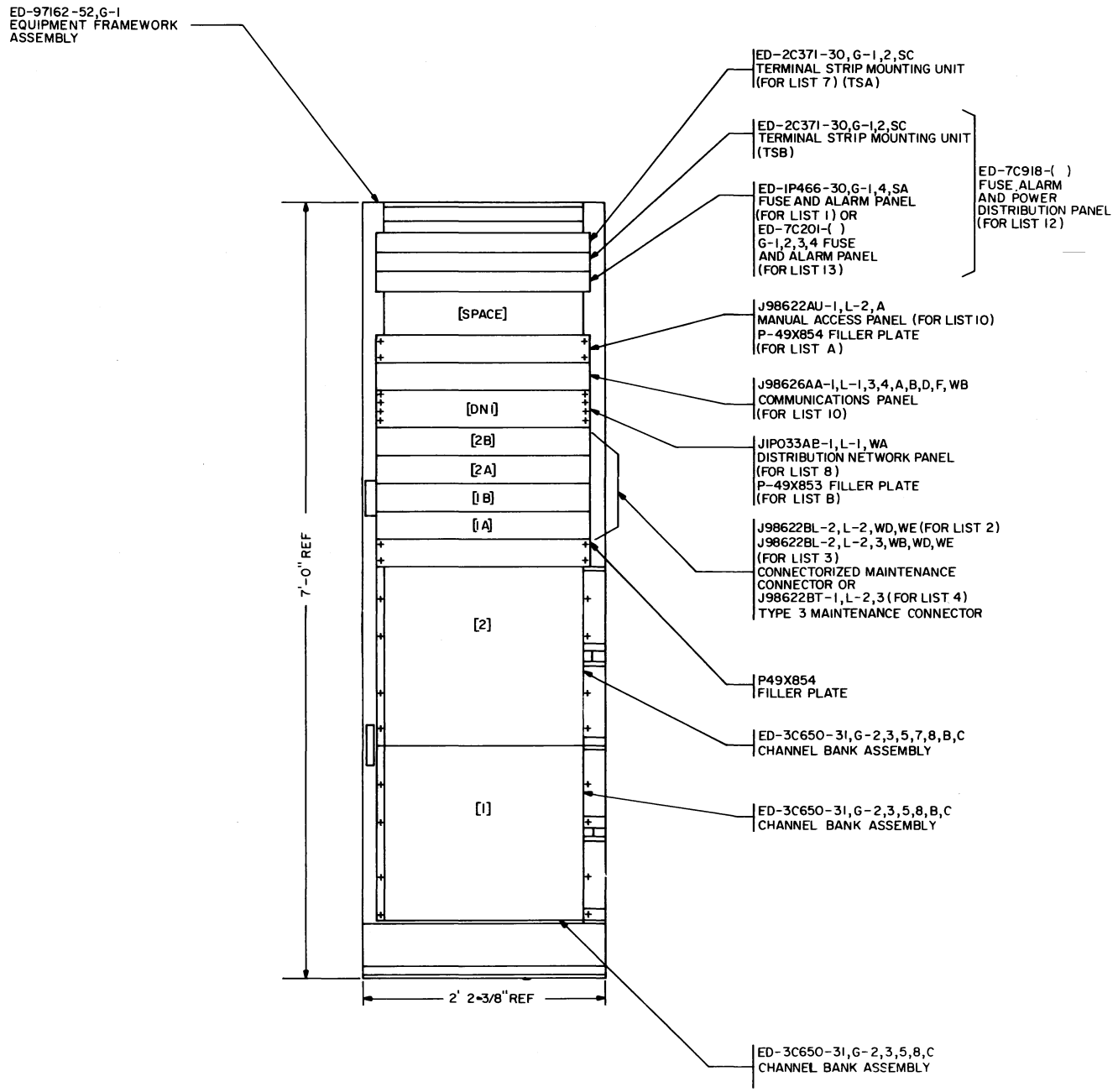

Fig 4—J98733C (Mfr Disc)

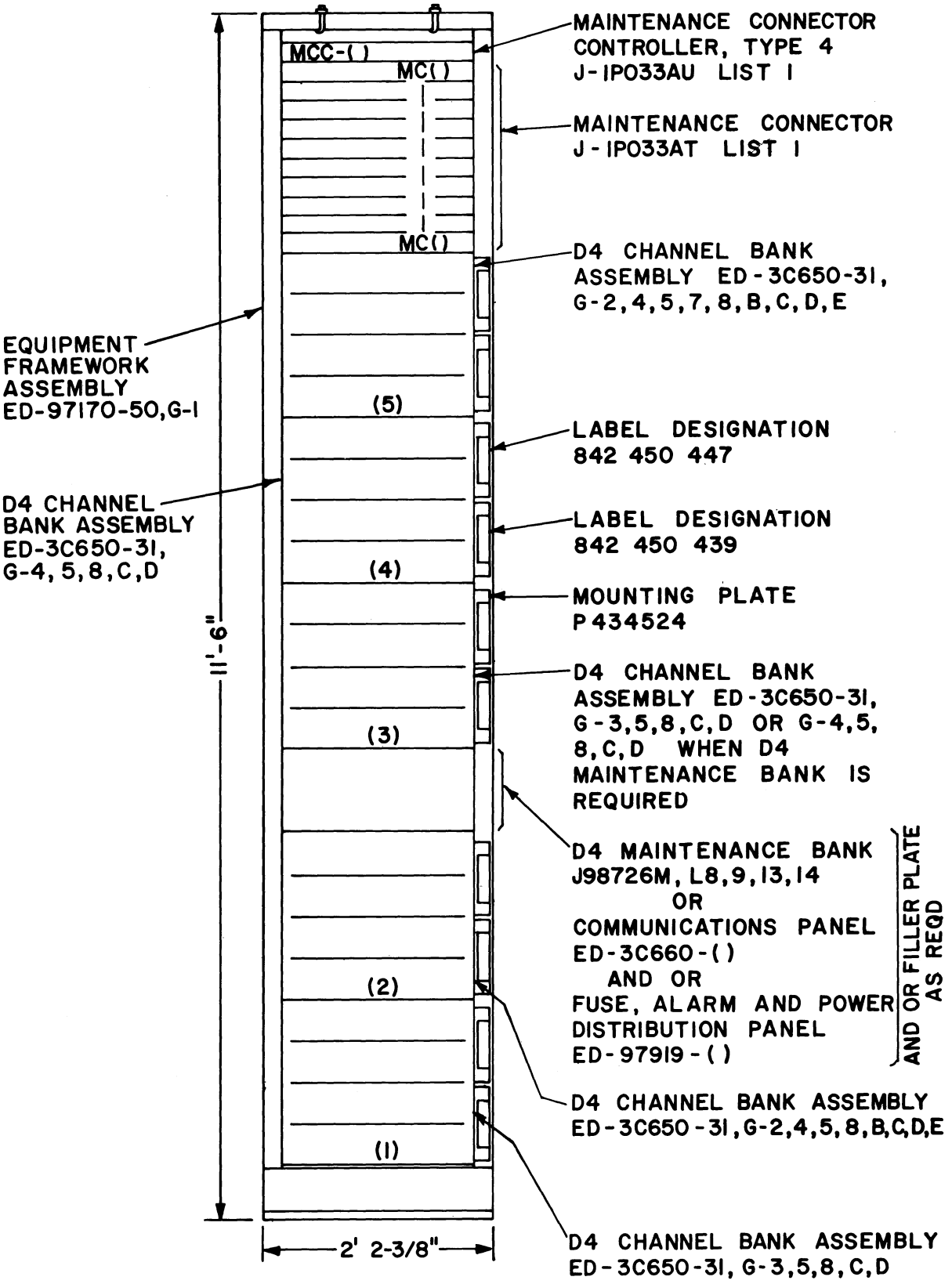

Fig 5—J98733D

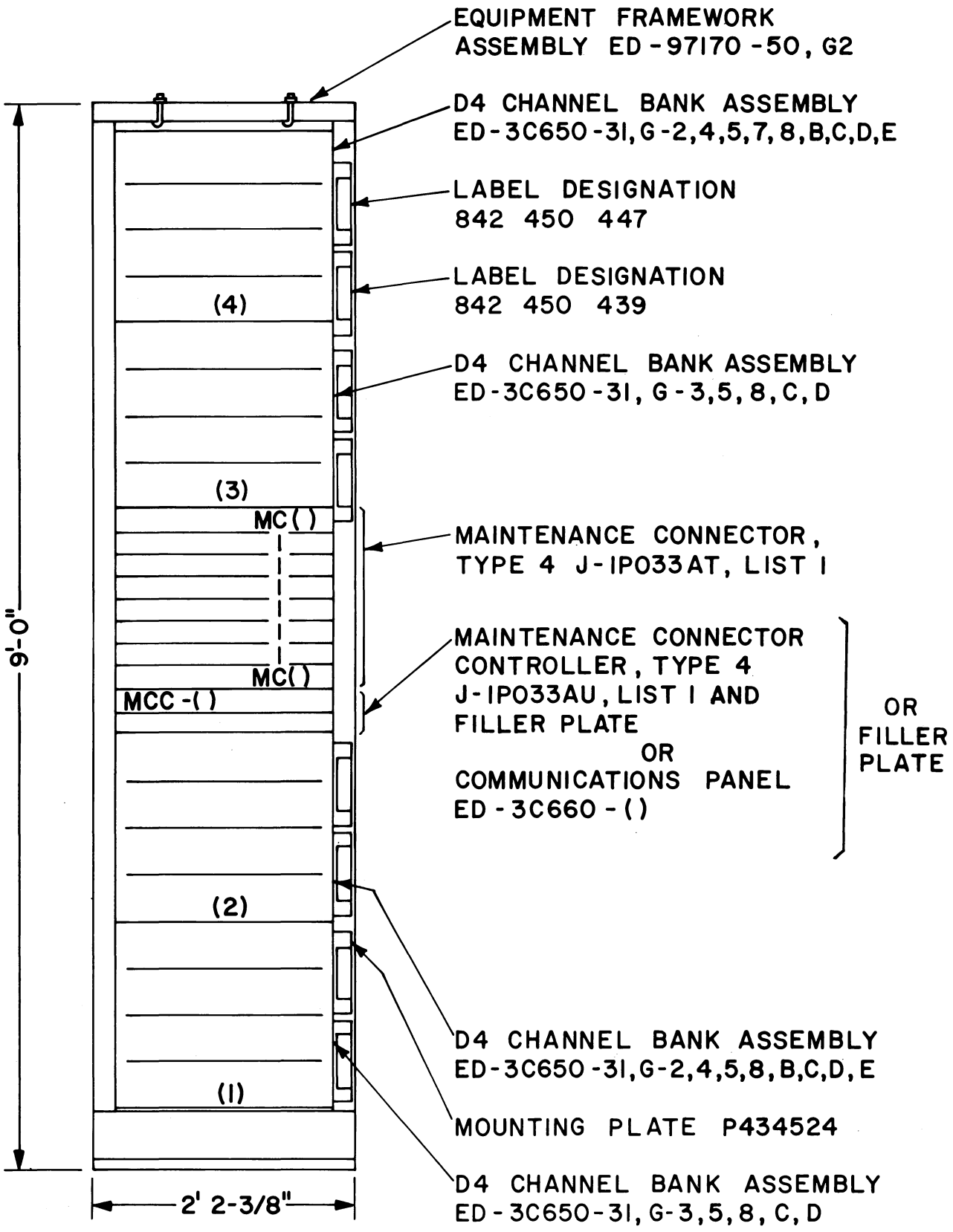

Fig 6—J98733E

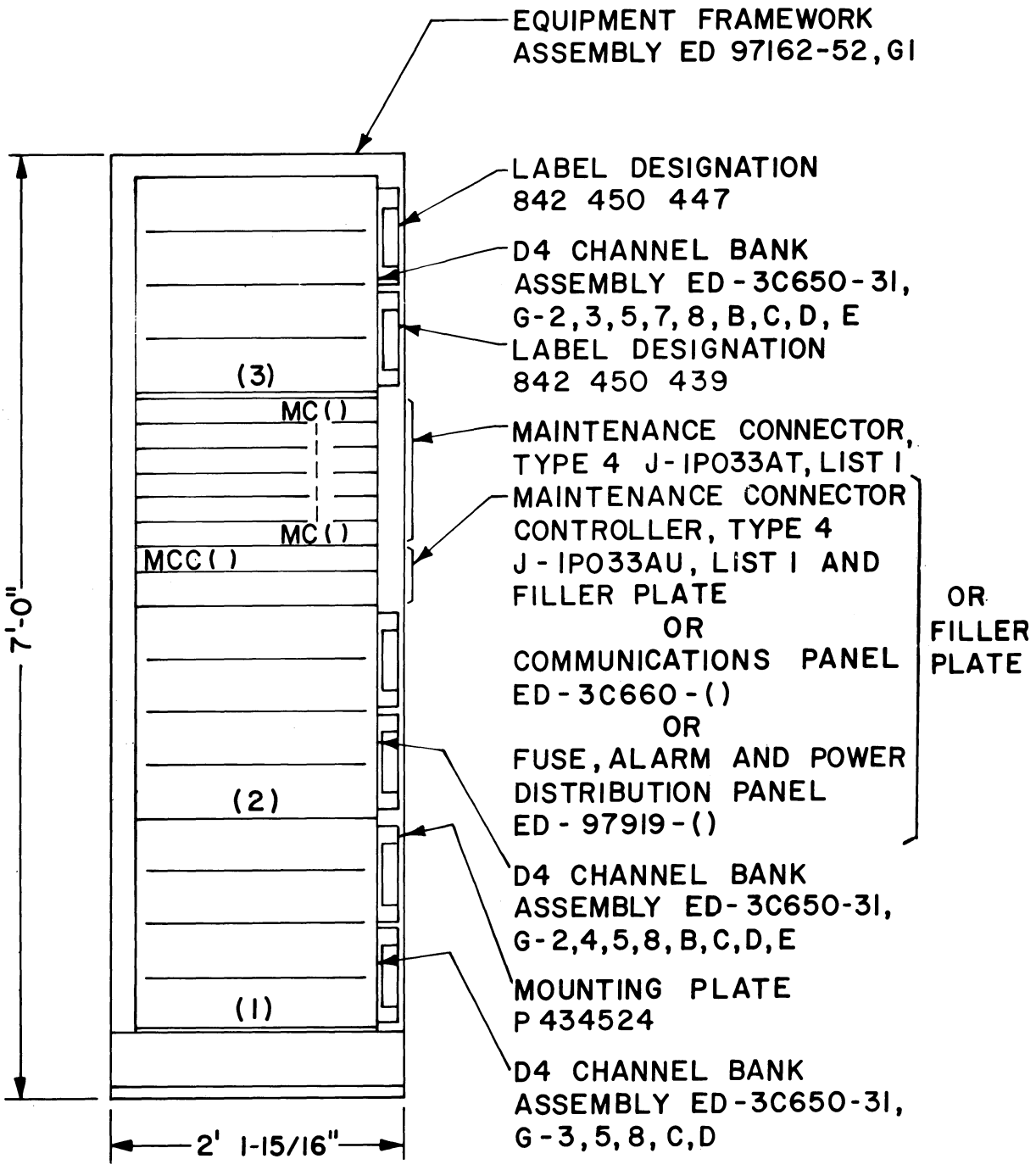

Fig 7—J98733F

panel or a −72 volt power converter panel in every third and fifth frame. The D4 maintenance bank cannot be mounted in either the 9-foot or the 7-foot frames.

2. SUPPLEMENTARY INFORMATION

801-000-000—Numerical Index—Common Systems
800-600-000—List of General Equipment Requirements Sections
855-351-103—Digital Channel Banks—Applications and Engineering Considerations
667-000-002—SMAS Maintenance Connectors
667-303-100—SMAS 5A Description
667-303-103—SMAS 5A/5B System Tests
795-209-355—Common Language Encoder Transmission Equipment (D4BC)
795-209-356—Common Language Encoder Transmission Equipment (D4CB)
795-210-356—Common Language Conversion Transmission Equipment (D4CB)
800-610-157—Hardening of Central Office and Main Station Communications Equipment
824-102-117—SMAS 5A/RTS 5A Equipment Design Requirements
859-000-000—Numerical Index—Division 859 of Signaling Transmission and Engineering Considerations
975-000-000—Numerical Index—Division 975 of Signaling
J97038—801-015-151—Cable Duct-Type Framework With Unequal Flange Uprights
J98622—801-408-151—Switched Maintenance Access System No 3 ( )
J98710—801-438-150—T1 Carrier Repeatered Line Equipment
J98725—801-523-153—T1C Repeatered Line Equipment
J98726—801-505-155—D4 Channel Bank Equipment
J1P033—824-102-117—SMAS No 5 — Associated Bays and Panels
ED-2C002-20—Patch Cord
ED-3C655-30—Equalizer Code
ED-3C656-30—Equalizer Code
ED-3C660-30—Communication Panel
KS-21838—Extractor Tool
Floor Plan Data—801-505-157-7
801-505-157-8
801-505-157-9

3. DRAWINGS

For additional drawings forming a part of this specification, see listings under **SUBDIVISIONS OF EQUIPMENT AND DETAILED INDEX.**

Circuits

SD-82046-01—Power Distribution Circuits
SD-82276-01—DC to DC Converter Circuit 136 Type Power Units
SD-24163-01—Line Switch Circuit
SD-81870-01—No. 2 ESS Ring and Tone Circuit
SD-1A209-01—Master Scanner
SD-2H161-01—Universal Trunk-Frame Scanner
SD-1P014-01—Circuit Maintenance System No 1A
SD-1P015-01—Circuit Maintenance System No 1B
SD-99500-01—Switched Maintenance Access System No. 3
SD-95900-01—Transmission and Noise Measuring Circuit

4. EQUIPMENT

ED-3C650-31—AT&TCo Std — D4 Channel Bank Assembly (D4CB)

Group 2—Equipment required in addition to group 5 to provide one shelf cover for the top bank in a bay. A miscellaneous bank, or a bank having no other bank mounted directly above.

Group 3—Equipment required in addition to group 5 to provide a designation strip for the bottom bank in a bay. A miscellaneous bank or a bank having no other bank mounted directly below.

Group 5—Assembly, wiring and equipment for one D4 channel bank assembly per SD-3C304-02.

Group 7—Equipment required in addition to group 5 to provide office clock facilities.

Group 8—Equipment required in addition to group 5 to provide mounting on unequal flange bay.

J98733D—AT&TCo Std — D4 UTE Frame Accommodating Front-Mounted Equipment for 240 Channels on 11-Foot 6-Inch by 26-3/8 inch Cable-Duct Type Framework Arranged for 2-Inch by 23-Inch Mounting Plates

List 1—Framework, assembly, wiring, and equipment to equip one 11-foot 6-inch frame per SD-7C102-01. (See Note A.)

	WIRE	EQUIP	NOTES
D4 Channel Bank, ED-3C650-31,GR( )		5	B

	WIRE	EQUIP	NOTES
Maintenance Connector Controller Shelf, J1P033AU-1,L1		1	C
Maintenance Connector Shelf, J1P033AT-1,L1		10	D

List 2—Assembly, wiring, and equipment required to modify list 1 for DSU dataport capability for one channel unit position. (See Note E.)

Notes

A. Mounting space is available for a communications panel, ED-3C660-( ) (optional writing shelf); and/or for a fuse, alarm and power distribution panel, ED-97919-( ) when −72V extended-range talk battery is required; or a D4 maintenance bank, J98726M,L8, L9, L13, and L14. These items are not included in the frame list structure. They must be ordered separately and miscellaneously mounted as required.

B. ED coded equalizers, when required, plug-in units and maintenance items for the D4 channel banks must be ordered separately by the customer, see specification J98726.

C. Plug-in board J1P033AU,L2 must be ordered separately by the customer.

D. Plug-in boards J1P033AT,L2 and L3 for J1P033AT,L1 must be ordered separately by the customer. The J1P033AT,L2 or L3 board must be installed in order to have transmission continuity.

E. The DSU channel unit position is not accessible by SMAS.

J98733E—D4 UTE Frame Accommodating Front-Mounted Equipment for 192 Channels on 9-Foot by 26-3/8 Inch Cable-Duct Type Framework Arranged for 2-Inch by 23-Inch Mounting Plates

List 1—Framework, assembly, wiring, and equipment to equip one 9-foot frame per SD-7C102-01. (See Note A.)

	WIRE	EQUIP	NOTES
D4 Channel Bank, ED-3C650-31,GR( )		4	B
Maintenance Connector Shelf, J1P033AT-1,L1		8	C

List 2—Wiring and equipment required in addition to list 1 to provide one maintenance connector controller shelf, J1P033AU-1,L1. (See Note D.)

List 3—Assembly, wiring, and equipment required to modify list 1 for DSU dataport capability for one channel-unit position. (See Note E.)

Notes

A. Mounting space is available in every fifth frame for a communications panel, ED-3C660-( ) (optional writing shelf) or for a fuse, alarm and power distribution panel, ED-97919-( ), when −72V extended-range talk battery is required. These items are not included in the frame list structure and must be ordered separately and miscellaneously mounted as required.

B. ED coded equalizers, when required, plug-in units and maintenance items for the D4 channel banks must be ordered separately by the customer, see specification J98626.

C. Plug-in boards J1P033AT,L2 and L3 for J1P033AT,L1 must be ordered separately by the customer. The J1P033AT,L2 or L3 board must be installed in order to have transmission continuity.

D. Plug-in board J1P033AU,L2 must be ordered separately by the customer.

E. The DSU channel unit position is not accessible by SMAS.

J98733F—AT&TCo Std — D4 VTE Frame Accommodating Front—Mounted Equipment for 144 Channels on 7-Foot by 25-15/16 Inch Cable-Duct Type Framework Arranged for 2-Inch by 23-Inch Mounting Plates

List 1—Framework, assembly, wiring, and equipment to equip one 7-foot frame per SD-7C102-01. (See Note A.)

	WIRE	EQUIP	NOTES
D4 Channel Banks, ED-3C560-31,GR( )		3	B

	WIRE	EQUIP	NOTES
Maintenance Connector Shelf, J1P033AT-1,L1		6	C

List 2—Wiring and equipment required in addition to list 1 to provide one maintenance connector controller shelf, J1P033AU-1,L1. (See Note D.)

List 3—Assembly, wiring, and equipment required to modify list 1 for DSU dataport capability for one channel-unit position. (See Note E.)

Notes

A. Mounting space is available in every third and fifth frame for a communications panel, ED-3C660( ) (optional writing shelf) or for a fuse, alarm and power distribution panel ED-97919-( ) when −72V extended-range talk-battery is required. These items are not included in the frame list-structure and must be ordered separately and miscellaneously mounted as required.

B. ED coded equalizers, when required, plug-in units and maintenance items for the D4 channel banks must be ordered separately by the customer, see specification J98626.

C. Plug-in boards J1P033AT,L2 and L3 for J1P033AT,L1 must be ordered separately by the customer. The J1P033AT,L2 or L3 board must be installed in order to have transmission continuity.

D. Plug-in board J1P033AU,L2 must be ordered separately by the customer.

E. The DSU channel unit position is not accessible by SMAS.

5. GENERAL NOTES AND INDEXES

5.01 The bays and frames of this specification meet the specifications of Section 800-610-157 for central office hardening.

List of A&M Only and Mfr Disc Equipment

The following equipment has been replaced as indicated. Where A&M Only items appear, the issue numbers are those of the issue in which the rating was first applied.

EQUIPMENT	RATING	DETAILS LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
ED-1P466-( )	Mfr Disc	2	—
ED-2C371-( )	Mfr Disc	2	—
ED-7C201-( )	Mfr Disc	2	—
ED-7C207-( )	Mfr Disc	2	—
ED-97918-( )	Mfr Disc	2	—
J98733A	Mfr Disc	2	—
J98733B	Mfr Disc	2	—
J98733C	Mfr Disc	2	—

SUBDIVISIONS OF EQUIPMENT AND DETAILED INDEX

To order WE J drawings, refer to the prefix and base number and request the current dash (-) number.

EQUIPMENT CODE	AT&T RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING
ED-3C650-31 (D4CB)	Std	D4 Channel Bank Assembly	ED-3C650-( )	SD-3C304-02
J98733D (D4BC)	Std	Unitized D4 Channel Banks, 11-Foot 6-Inch Frame	J98733D-( )	SD-7C102-01
J98733E (D4BC)	Std	Unitized D4 Channel Banks, 9-Foot Frame	J98733E-( )	SD-7C102-01
J98733F (D4BC)	Std	Unitized D4 Channel Banks, 7-Foot Frame	J98733F-( )	SD-7C102-01

Circuit Schematic Index

CIRCUIT DRAWING	J98733 EQPT CODE
SD-1P138-01	J1P033AT,J1P033AU
SD-3C304-02	ED-3C650-31
SD-7C091-01	ED-97919-( )
SD-7C102-01	D,E,F
SD-7C169-01	J1P033AT
SD-7C170-01	J1P033AU

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