CONVENTIONAL DISTRIBUTING FRAMES

CONNECTING BLOCKS

DESCRIPTION

1. GENERAL

1.01 This section describes the 89- and 93-type connecting blocks used on the conventional distributing frames.

1.02 When this section is reissued, the reason for reissue will be listed in this paragraph.

2. 89-TYPE CONNECTING BLOCKS

A. General

2.01 The 89-type connecting block was designed to provide a high-density wiring option for the low profile conventional distributing frame (LPCDF) and taller frames requiring termination compacting. This block will mount on both the horizontals and verticals of the main frame.

2.02 The 89-type connecting block features:

- Solderless wire-wrap terminals or quick-clip terminals
- A forward facing terminal field mounted on a vertical panel which will rotate 180° for easy access to equipment cable wiring
- A maximum density of up to 100 pairs on bifurcated wire-wrap terminals, and up to 128 pairs on single wire-wrap or quick-clip terminals per 8-inch block
- A standard housing to maintain block uniformity on the frame
- Vertical and horizontal mounting on 8-inch centers
- A fanning strip which provides for pair identification and isolates jumper-wire tension induced during manual jumper tracing.

B. Description

2.03 The 89-type connecting block shown in Fig. 1 is available with a termination field of 50, 75, 96, 100, and 128 pairs. The various pair terminations provide for either a decimal or octal count configuration.

2.04 The 89-type connecting block has a forward facing terminal field mounted on a vertical panel which rotates 180° to provide access to the switchboard cable terminations. The field of terminals are mounted in a plastic housing. By rotating the field of terminals forward, the block is locked in place to the open position by a spring mechanism. By opening the block, the rear of the block is exposed allowing for cable installation and servicing. When the block is rotated closed, two captive screws hold the block closed.

2.05 The 89-type connecting block is designed to be used with the new irradiated polyvinyl chloride (IPVC) jumper wire. The 89-type blocks use 22- through 26-gauge IPVC wire. IPVC wire is covered in 201-220-301.

2.06 The terminals of the 89-type block are protected by the external edges and the fanning strip that surrounds the terminal field. This protective edge makes a cover unnecessary. However, the space taken up by the increased terminal area reduces the identification surface. This problem is particularly serious when the blocks are used for trunk and miscellaneous circuit termination. Therefore, a cover is made available to alleviate the reduction in identification surface.

2.07 The 89-type block is available in various terminal configurations which are: single wire-wrap, single quick-clip, bifurcated wire-wrap, and single quick-clip strapped on the rear of the block for bifurcation. Table A lists the codes of the 89-type blocks, the number of terminals, terminal type and the application of each block.

C. KS-21876 Designation Cover

2.08 The KS-21876 designation cover is available to provide additional protection to the cross-connect field of terminals. The cover also provides a convenient identification area for unlabeled, high-density, 89-type connecting blocks.

2.09 The KS-21876 designation cover shown in Figure 1 is a molded, white, polyvinyl chloride (PVC), hinged unit designed to fit all 89-type connecting blocks. The features of this cover are:

- All surfaces are matte finished to reduce the possibility of glare from overhead lights.
- The exterior of the cover contains a blocked-in area for identifying the facilities terminated on the block.
- The interior surface contains recessed rectangular regions, hot stamped with an octal or decimal gray and white checkerboard pattern providing space for stencilling and terminal designations.
- A blank strip located above the rectangular regions for circuit designations.

2.10 The KS-21876 designation cover is available in five different configurations. Table A lists the different designation covers and the connecting block each cover is used on. See 201-220-802 for the installation of this cover.

D. Special Service Protection

2.11 The 89-type connecting block has a clip terminal insulator associated with each block (Fig. 1). The terminal insulators are fabricated out of red plastic and protect the tip and ring terminals when special service protection is required.

2.12 The terminal insulators for the 89-type connecting block are:

- C clip terminal insulator (AT-8300), designed to protect all 89B, 89C, and 89D connecting blocks containing single wire-wrap or quick-clip terminals
- G clip terminal insulator (AT-8819), designed to protect all 89A connecting blocks containing bifurcated wire-wrap terminals.

3. 93-TYPE CONNECTING BLOCK

A. General

3.01 The 93-type connecting block, shown in Figure 2, was designed to terminate special service equipment such as Metallic Facility Terminal (MFT), Digital Facility Terminal (DFT), and Analog Facility Terminal (AFT) or Switched Maintenance Access System (SMAS).

3.02 The 93-type connecting blocks feature:

- Termination of up to 480 single identified, 240 single pairs, or 120 bifurcated pairs of cross-connect wires
- Factory hot-stamping providing unobscured identification of wiring and pre-cut stick-on labels for circuits
- Internal channels to spatially organize, guide, protect, and snub wires
- Elimination of measuring and wire-wrapping or soldering through the use of 109A-type ***(no-hit)*** quick-clip connectors
- Separately mounted light-weight housing and removable modular block assembly with self-locking mechanism
- Use of both single wire and multipair impact tools
- Installation on both the verticals and horizontal sides of conventional frameworks.

B. Description

3.03 The 93-type connecting block consists of a light-weight housing and block assembly.

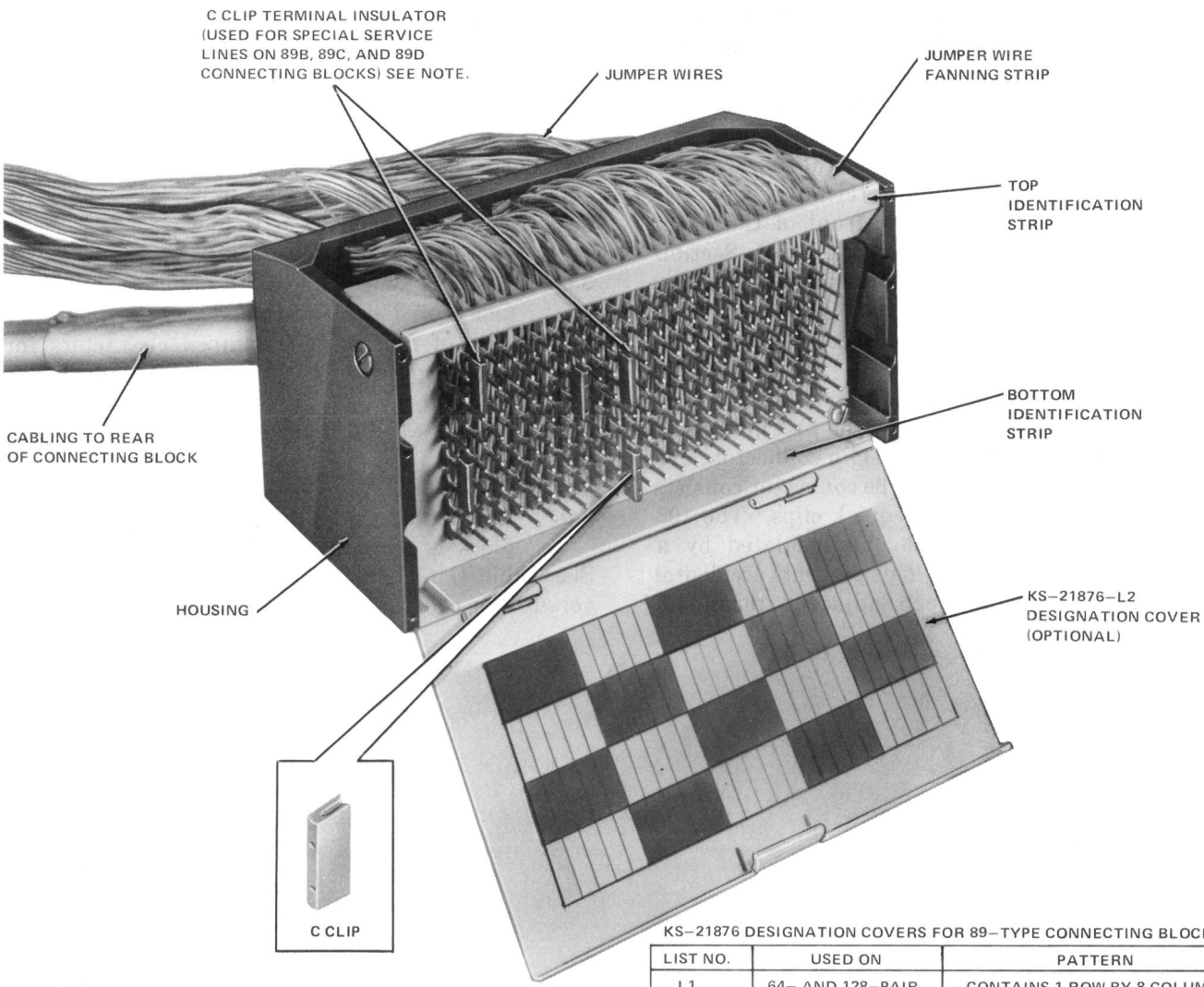
The block assembly is made up of 24 interlocking plastic subassemblies ("slices") with internal channels that organize, guide, protect, and snub the equipment and cross-connect wires. Each slice of the block has 40 individual channels for wiring. These internal channels assure against jumper wire congestion on the surface of the block. The 20 channels on the bottom of each slice are used for equipment terminations. The 20 channels on the top of each slice are used for cross-connect terminations. All the wiring is terminated on the front of the block at 109A-type quick-clip connectors. See Section 201-220-301 for method of making connections. Each internal channel of the slice guides the wire through the block and organizes each wire.

3.04 The 93-type block has a vertical forward facing terminal field using the new miniature quick-clip connectors. The quick-clip connectors are coded 109A-SW1-5. The 109A-type connector consists of ten 108 select solder-plated quick clips. The 108 quick clip is a floating type clip insulated by a flame retardant plastic shell. This prevents accidental shorting, ***(no hit),*** between adjacent terminals when working with the block. When the 109A-type connector is mounted on the block, the bottom end makes connection with the equipment cable conductors, and the top end provides connections for cross-connect wires.

3.05 The 93-type connecting block housing has two fanning strip areas molded into the housing. The lower fanning ports organize the equipment cable wires. The upper fanning strip organizes the cross-connect field wires.

3.06 The 93-type connecting block provides unobscured identification. This is accomplished by the use of factory hot-stamped characters for the leads and pre-printed , pre-cut, stick-on labels for the circuits. See Table B for a list of the 93-type blocks available for special service circuits.

3.07 Each subassembly of the 93-type connecting block is marked with factory hot-stamping. See Table C for an arrangement of hot-stamping versus the codes of connecting blocks.



NOTE:
G CLIP TERMINAL INSULATOR IS USED FOR SPECIAL SERVICE LINES ON 89A CONNECTING BLOCKS.

KS-21876 DESIGNATION COVERS FOR 89-TYPE CONNECTING BLOCKS

LIST NO.	USED ON	PATTERN
L1	64- AND 128-PAIR BLOCKS	CONTAINS 1 ROW BY 8 COLUMN CHECKERBOARD PATTERN
L2	50-, 75-, AND 100-PAIR BLOCKS	CONTAINS 1 ROW BY 5 COLUMN CHECKERBOARD PATTERN
L3	ANY 89-TYPE BLOCK	DOES NOT CONTAIN ANY CHECKERBOARD PATTERN
L4	USED ON 96-PAIR 89-TYPE BLOCKS	CONTAINS 1 ROW BY 8 COLUMN CHECKERBOARD PATTERN
L5	USED ON 100-PAIR 89-TYPE BLOCKS	CONTAINS 1 ROW BY 5 COLUMN NON-CONSECUTIVE PATTERN

Fig. 1—89-Type Connecting Block (Typical) With Jumpers and Special Service Protection

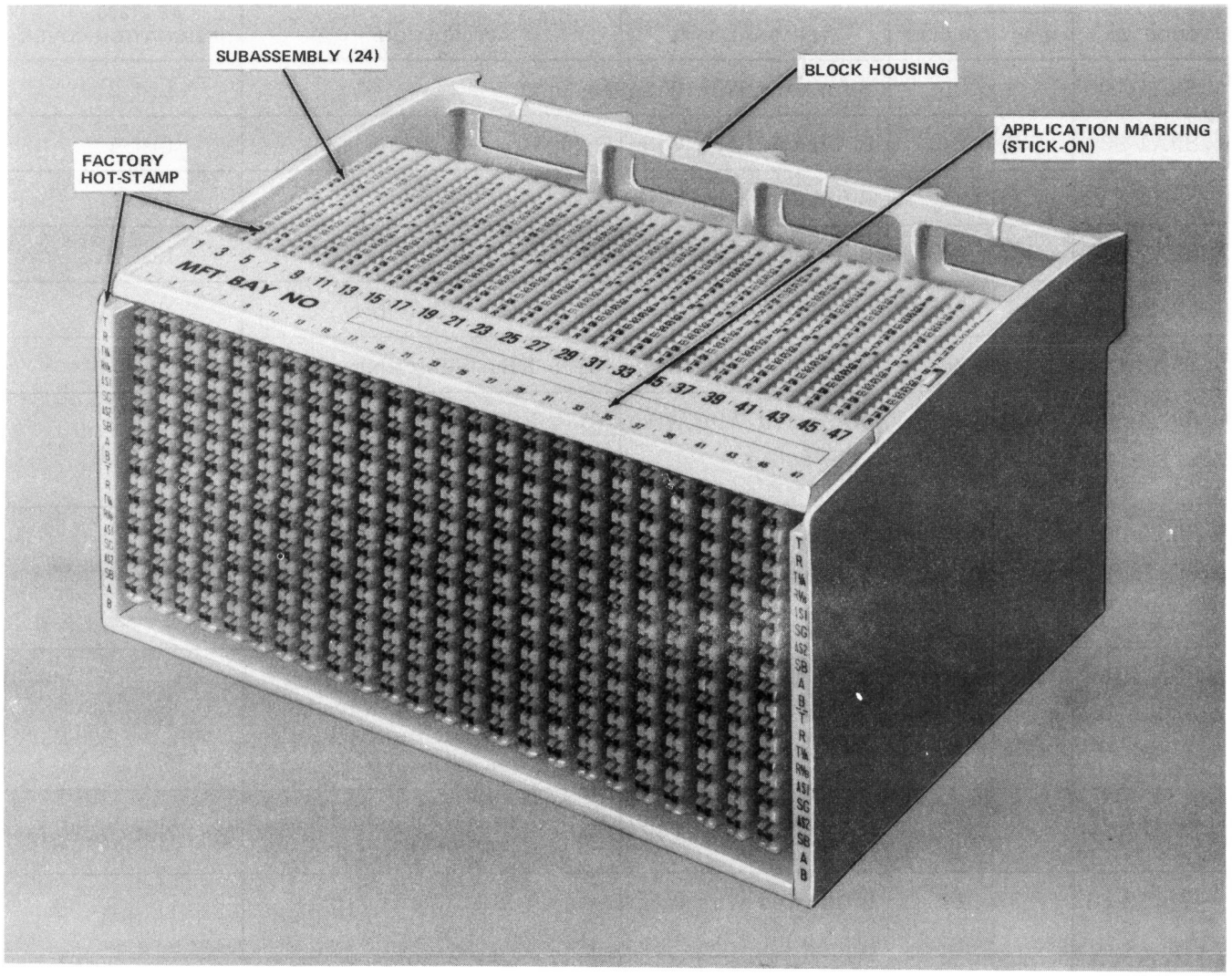


Fig. 2—93-Type Connecting Block

TABLE A

89-SERIES CONNECTING BLOCKS

CODE NO.	TERMINAL FIELD ROW COLUMN	TERMINAL TYPE	APPLICATION	OPTIONAL KS-21876 DESIGNATION COVER
89A1-100	8 X 25	Bifurcated Wire Wrap	Decimal	List 2
89A1-96	8 X 24	Bifurcated Wire Wrap	Octal	List 4
89A1-64	4 X 32	Bifurcated Wire Wrap	Octal	List 1
89A1-50	4 X 25	Bifurcated Wire Wrap	Decimal	List 2
89A2-100	8 X 25	Bifurcated Wire Wrap	No. 1 XBar Subscriber	Note 1
89A3-100	8 X 25	Bifurcated Wire Wrap	No. 5 XBar Subscriber	Note 1
89A4-96	8 X 24	Bifurcated Wire Wrap	No. 2 ESS Subscriber No. 1 ESS Subscriber (2:1), Ferreed & Remreed	Note 1
89A6-96	8 X 24	Bifurcated Wire Wrap	No. 1 ESS Subscriber (4:1), Ferreed & Remreed (1 Concentrator + 1/2 Concentrator)	Note 1
89A7-96	8 X 24	Bifurcated Wire Wrap	No. 1 ESS Subscriber (4:1), Ferreed & Remreed (1 Concentrator + 1/2 Concentrator)	Note 1
89A11-96	8 X 24	Bifurcated Wire Wrap	No. 3 ESS Subscriber (6:1) Switches (0-3)	Note 1
89A12-96	8 X 24	Bifurcated Wire Wrap	No. 3 ESS Subscriber (6:1) Switches (4-7)	Note 1
89B1-128	8 X 32	Single Wire Wrap	Trunk & Special Services (Octal)	List 1
89B1-100 (Note 2)	8 X 25	Single Wire Wrap	Trunk & Special Services (Octal)	List 2
89B1-75	6 X 25	Single Wire Wrap	Toll & Special Services (Decimal)	List 2
89B1-64	8 X 25	Single Wire Wrap	No. 1 ESS, universal trunk, strapped for ring and tip reversal (plates 01-08 when UT frame is cabled directly to HMDF)	Note 1

TABLE A (Contd)

89-SERIES CONNECTING BLOCKS

CODE NO.	TERMINAL FIELD ROW COLUMN	TERMINAL TYPE	APPLICATION	OPTIONAL KS-21876 DESIGNATION COVER
89B2-100 (Note 2)	8 X 25	Single Wire Wrap	Outside Plant Cable	Note 1
89B2-64	8 X 32	Single Wire Wrap	No. 1 ESS, universal trunk strapped for ring and tip reversal (plates 09-16 when UT frame is cabled directly to HMDF)	Note 1
89B3-64	8 X 32	Single Wire Wrap	No. 1 ESS, universal trunk strapped for ring and tip reversal (plates 01-08 when UT frame is cabled via an IDF)	Note 1
89B4-64	8 X 32	Single Wire Wrap	No. 1 ESS, universal trunk strapped for ring and tip reversal (plates 09-16 when UT frame is cabled via an IDF)	Note 1
89B3-100	8 X 25	Single Wire Wrap	Outside plant cable	Note 1
89B4-100	8 X 25	Single Wire Wrap	Decimal equipment	List 5
89B2-128	8 X 32	Single Wire Wrap	No. 1 ESS, universal trunk plates 01-16 when UT frame is cabled via an IDF	Note 1
89B3-128	8 X 32	Single Wire Wrap	No. 1 ESS, universal trunk plates 01-16 when UT frame is cabled directly to HMDF).	Note 1
89C1-128 (Note 2)	8 X 32	Single Quick Clip	Trunk & Special Services (Octal)	List 1
89C1-100 (Note 2)	8 X 25	Single Quick Clip	Trunk & Special Services (Decimal)	List 2
89D1-64 (Note 2)	4 X 32	Bifurcated Quick Clip (Strap (8 X 32)	Octal equipment	List 3
89D1-50 (Note 2)	4 X 25	Bifurcated Quick Clip (Strap (8 X 25)	Decimal equipment	List 3

Note 1: Block contains factory installed identification labels. Under normal circumstances cover is not required.

Note 2: Block has been rated Additions and Maintenance (A&M).

TABLE B

93-TYPE CONNECTING BLOCKS

CODE	APPLICATION	DENSITY
93A1A	UNIVERSAL MFT A-SIDE	48 CKTS/BLK
93B1A	UNIVERSAL MFT B-SIDE	48 CKTS/BLK
93D1A	COMMON MFT A-SIDE	96 CKTS/BLK
93E1A	COMMON MFT B-SIDE	96 CKTS/BLK
93G1A	AFT	24 CKTS/BLK
93H1A	DFT	48 CKTS/BLK
93J1A	2-WIRE MFT A-SIDE	192 CKTS/BLK
93K1A	2-WIRE MFT B-SIDE	192 CKTS/BLK
93L1A	SMAS 4-WIRE	100 CKTS/BLK
93M1A	SMAS 6-WIRE	50 CKTS/BLK

TABLE C

93-TYPE CONNECTING BLOCK
SUBASSEMBLY MARKINGS

CODE									
93A1A	93B1A	93D1A	93E1A	93G1A	93H1A	93J1A	93K1A	93L1A	93M1A
B	—	R1/B	—	—	2	—	—	RB	-48
A	—	T1/A	—	—	1	—	—	TB	VA
SB	—	R	R1	S2	SB	R	R1	RA	RB
AS2	—	T	T1	S	M	T	T1	TA	TB
SG	BS2	R1/B	R	SB	SG	R	R1	RB	RA
AS1	BS1	T1/A	T	M	E	T	T1	TB	TA
R1/B	R1	R	R1	SG	R1	R	R1	RA	-48
T1/A	T1	T	T1	E	T1	T	T1	TA	VA
R	R	R1/B	R	R1/B	R	R	R1	RB	RB
T	T	T1/A	T	T1/A	T	T	T1	TB	TB
B	—	R	R1	R	2	R	R1	RA	RA
A	—	T	T1	T	1	T	T1	TA	TA
SB	—	R1/B	R	—	SB	R	R1	RB	-48
AS2	—	T1/A	T	—	M	T	T1	TB	VA
SG	BS2	R	R1	R1	SG	R	R1	RA	RB
AS1	BS1	T	T1	T1	E	T	T1	TA	TB
R1/B	R1	—	R	—	R1	R	R1	RB	RA
T1/A	T1	—	T	—	T1	T	T1	TB	TA
R	R	—	—	R	R	—	—	RA	—
T	T	—	—	T	T	—	—	TA	—