GROUP-BUSY FRAME
EQUIPMENT DESIGN REQUIREMENTS
CROSSBAR TANDEM SYSTEM

1. GENERAL

SCOPE

1.01 This specification, together with the supplementary information listed herein, covers the equipment design requirements for the framework, equipment, and circuits to be used in the engineering, manufacture, and installation of the group-busy frame in tandem crossbar offices.

1.02 This specification is reissued to incorporate description of new frame and to update specification to include all previous addenda.

CAPACITY

1.03 The group-busy frame can be arranged to serve from 910 to 1120 outgoing trunks requiring group-busy indication. Associated trunk- and group-busy units are furnished on the frame in the following combinations.

TRUNK-BUSY UNIT (70 TRUNKS/UNIT)		GROUP-BUSY UNITS (10 GROUPS/UNIT)
13 Units Max, (910 Trks)	with	10 Units Max, (100 Grps)
14 Units Max, (980 Trks)	with	6 Units Max, (60 Grps)
15 Units Max, (1050 Trks)	with	4 Units Max, (40 Grps)
16 Units Max, (1120 Trks)	with	0

Trunk-busy units serving 2-way intertoll trunks requiring directional reservation are arranged to serve 52 trunks. Therefore the capacity of frame shown above should be reduced by 18 trunks for each such unit equipped.

DESCRIPTION

1.04 The group-busy circuit is used to provide information to the marker that all outgoing trunks in a group are busy prior to seizing the office link frame. This feature obviates the necessity of busy testing each trunk in the group before transferring the call to overflow or to an alternate route. The group-busy method results in more efficient operation of the marker when calls to any particular terminal, such as a PBX, are abnormally high.

1.05 The group-busy frame is 11 feet 6 inches high by 2 feet 0-5/8 inch long and is arranged to accommodate trunk-busy and group-busy units in several combinations. A cross-connection field of solderless-type terminal strips provides means to associate all outgoing trunks in a marker test group with a maximum of three of 100 group-busy circuits as required. A frame fuse panel and a miscellaneous circuit unit are also provided on the frame. A frame local cable interconnects the units, fuse panel, and cross-connecting field.

1.06 Associated with the group-busy frame J28762A-( ), a trunk-busy distributing frame ED-27867-( ) is provided on an optional basis to alleviate cross-connection congestion in the main distributing frame. This trunk-busy distributing frame is 11 feet 6 inches high by 2 feet 0-5/8 inches long, and is arranged with a cross-connect field such that the S1 leads from the trunk-busy (TB-) relays all terminate on a field of eight 251M terminal strips in the approximate center of the overall field. The S1 leads from the office link and extension frames terminate on a field of eight 251M terminal strips above the trunk-busy (TB) leads and terminal strips and on a field of twelve 251M terminal strips below the TB lead terminal strips. This terminal strip arrangement lends to a cross-connect field with maximum flexibility. Punching assignments are laid out for ease of

understanding with the terminal strips for S1 leads from the office link frames in vertical rows corresponding to each of the 40 trunks in a level on a pair of office link frames. Similarly, the TB relay terminal strips are laid out in four quadrants of 70 punchings each corresponding to each of the 70 TB relays of a trunk-busy unit on a group-busy frame. Cabling from the office link and group-busy frames will go through the back loop of a fanning ring assembly and be terminated on the back side of the terminal strips. Cross-connections will be made from the front of the trunk-busy distributing frame (TBDF) on the front punchings of the terminal strips.

1.07 The group-busy unit and the 2-way trunk-busy unit each occupy the space of three 2- by 23-inch mounting plates and is surface wired to its own unit terminal strips for connection to switchboard cabling. The trunk-busy unit has a capacity of 70 trunk-busy relays while the 2-way trunk-busy unit has a capacity of 52. Each unit can be associated with outgoing trunks via distributing frame cross connections when the group-busy feature is specified.

1.08 The group-busy unit occupies the space of one 2- by 23-inch mounting plate and is surface wired to its own unit terminal strips for connections to switchboard cabling. Each unit has a capacity for ten group-busy relays each of which is associated on a fully flexible basis with any number of trunk-busy relays up to a maximum of 80. From each of the group-busy relays, leads are provided to pass the group-busy indication to all markers. These relays are normally operated as long as any associated trunk remains idle. When all trunks in a group are busy, the group-busy relay releases and a ground is passed along the group-busy leads indicating to the markers that this group is busy and all subsequent calls should be rerouted or passed to overflow without first seizing the office link frames. When any trunk again becomes idle, its group-busy relay operates and the group is once more available. Cross-connection terminals are provided to permit some group-busy circuits to function under control of up to a maximum of ten dynamic overload control circuits.

2. SUPPLEMENTARY INFORMATION

817-000-000—Tandem Crossbar System Index
J20152—817-035-150—Switchboard Power Cabling
J25551—817-060-150—End Guards, Aisle Pilot Lamps and DPTS Supports, Fuse Record Book and Holder, and Spare Fuse
J25552—817-037-150—Frame Lighting and Appliance Outlets
J29253—817-010-100—General Outline—Tandem Crossbar System
Floor Plan Data—Section 9.1, Sheet 66

3. DRAWINGS

WE J drawings should be ordered by referring to the prefix and base number and requesting the current dash (—) number.

Keysheet

SD-25435-01—Tandem Crossbar

Framework

ED-25278-01—Jack, Key, and Lamp Panel Assembly
ED-92744-01—Bulk Angle Frame Assembly
ED-92925-01—Fuse Panel Design Requirements
ED-92243-01—Relay Rack Unit Framework

Equipment

J28762A-( )—Group-Busy Frame
J28762AA-( )—Trunk-Busy Unit
J28762AB-( )—Group-Busy Unit
J28762AC-( )—Fuse Panel for Group-Busy Frame
J28762AD-( )—Two-Way Trunk-Busy Unit

Wiring and Cabling

ED-25346-14, -15 —Methods of Running Power Feeders
ED-27159-10—Switchboard Cabling Details

4. EQUIPMENT

ED-27867-( )—Trunk-Busy Distributing Frame

Group 1—Framework, equipment, and assembly for one trunk-busy distributing frame (TBDF), composed of a bulk angle framework per ED-91183-30, G2; 40—P44J 272 terminal strip assemblies; and 11—P44J 273 fanning ring assemblies.

J28762A—AT&TCo Std—Group-Busy Frame

Equipment—J28762A-( )

List 1—Framework, assembly, wiring, and equipment for one group-busy frame with local cable arranged to accommodate 13 trunk-busy relay units (J28762AA). (See Note A.)

	WIRE	EQUIP	NOTES
Grp-busy Ckt, SD-27076-01: Fig. 1	13	0	A
Misc Ckt, SD-27076-01: Fig. 3	1	1	B
Fuse Panel, J28762AC	1	1	

List 2—Supplementary wiring per SD-27076-01, Fig. 2 required in addition to list 1 to accommodate 10 group-busy relay units (J28762AB). (See Note A.)

List 3—Supplementary wiring per SD-27076-01, Fig. 1 and 2 required in addition to list 1 to accommodate six group-busy relay units (J28762AB) and one additional trunk-busy unit (J28762AA). (See Note A.)

List 4—Supplementary wiring per SD-27076-01, Fig. 1 and 2 required in addition to list 1 to accommodate four group-busy relay units (J28762AB) and two additional trunk-busy units (J28762AA). (See Note A.)

List 5—Supplementary wiring per SD-27076-01, Fig. 1 required in addition to list 1 to accommodate three additional trunk-busy units (J28762AA).

List 6—Supplementary wiring per SD-27076-01 required in addition to list 1 to provide multiple of GB terminals to succeeding frame with growth in left-to-right direction. (See Note C.)

List 7—Supplementary wiring per SD-27076-01 required in addition to list 1 to provide multiple of GB terminals to succeeding frame with growth in right-to-left direction. (See Note C.)

Notes

A. List 1 and any one of lists 2 through 5 provide the maximum combinations of group- and trunk-busy units available for a group-busy frame.

B. Miscellaneous circuit equipment shall be provided on alternate and isolated bays only.

C. Provide lists 6 or 7 when two group-busy frames are adjacent.

D. To alleviate cross-connection congestion on MDF, an optional trunk-busy distributing frame (TBDF) may be provided per ED-27867-( ).

J28762AA—AT&TCo Std—Trunk-Busy Relay Unit

Equipment—J28762AA-( )

List 1—Framework, assembly, wiring, and equipment per SD-27076-01, 35 Fig. 1 for one unit of 70 trunk-busy relays.

J28762AB—AT&TCo Std—Group-Busy Relay Unit

Equipment—J28762AB-( )

List 1—Assembly, wiring, and equipment per SD-27076-01, Fig. 2 for a unit of 10 group-busy relays (maximum of 10).

J28762AC—AT&TCo Std—Fuse Panel for Group-Busy Frame

Equipment—J28762AC-( )

List 1—Assembly, wiring, and equipment per SD-27076-01, Fig. 4 for one fuse panel.

J28762AD—AT&TCo Std—Two-Way Trunk-Busy Unit

Equipment—J28762AD-( )

List 1—Framework, assembly, wiring, and equipment for a unit of 52 two-way trunk-busy circuits arranged for directional reservations.

	WIRE	EQUIP	NOTES
Two-Way Trunk Group-Busy Ckt, SD-27076-01, Fig. 1 & 5	26	26	

5. GENERAL NOTES

5.01 Ten group-busy relays units may be distributed over a maximum of two frames in groups of four and six each. If group-busy units are so

arranged, the associated GB punchings must still be multipled to appear on all group-busy frames in the same manner as if all group-busy units were on one frame. When group-busy units are distributed over two bays, the 6-unit arrangement is provided first and numbered 0 through 5. The 4-unit arrangement is numbered 6 through 9. In any arrangement, however, the GB units mount directly above the highest TB unit position provided for that particular frame. (See Fig. 1.)

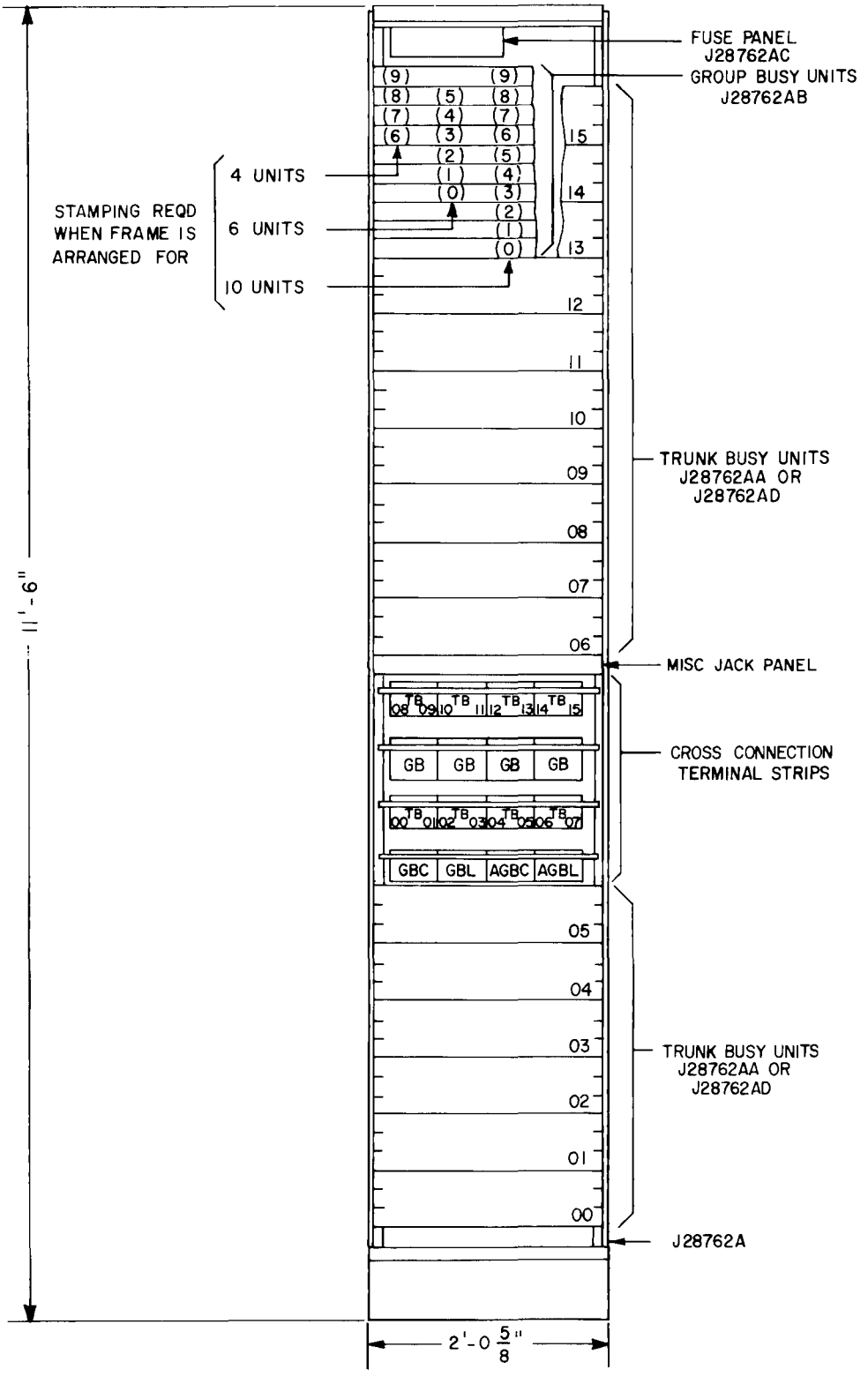

Fig. 1—Crossbar Systems Tandem Office Group-Busy Frame

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