

EQUIPMENT LOCATIONS

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1. INTRODUCTION

1.01 The purpose of this practice is to provide equipment location information for typical ITS switch arrangements. This practice should be used as a reference aid when using maintenance and installation practices.

1.02 Part 2 of this practice provides brief descriptions of ITS Systems to relate the terminology to typical installation configurations. Parts 3 through 5 provide details of shelf arrangements, circuit pack locations, fuse assignment information, cabling and wiring information and optional equipment frames.

1.03 The system configurations illustrated within this practice are for systems with one or two line groups. All equipment is shown as installed in 8-foot frames.

1.04 Each system configuration will vary due to several factors, which include: class of service provided, such as toll, subscriber, or combined toll/subscriber; optional equipment selected; and physical layout of frames due to floor space considerations. For specific details concerning a particular installation, refer to the Installation Specifications (Installation Start Package) and the Installer Instructions.

2. TYPICAL ITS SYSTEM CONFIGURATIONS

2.01 Vidar's integrated systems architecture consists of basic building blocks of equipments which are used to provide several functional configurations. The configurations include:

- | | | | |
|-----|--------|----------------------------|-----------|
| (a) | ITS4 | Toll Switch | Class 4 |
| (b) | ITS5 | Local Switch | Class 5 |
| (c) | ITS4/5 | Combined Toll/Local Switch | Class 4/5 |

2.02 The building blocks used to achieve these configurations include:

- (a) Base Switch - located at the central office
- (b) Subscriber Switch - collocated with the base switch or at a remote location
- (c) Ringing Generator - collocated with the subscriber switch
- (d) Dual Tone Multifrequency Equipment (optional) - collocated with the base switch
- (e) Voice banks (VB3) - collocated with the base switch

2.03 ITS4 Toll Switch Configuration: The ITS4 functions as a Class 4P toll tandem switch with CAMA capability. A basic ITS4 consists of one building block, the ITS base switch (Figure 1). The toll switch consists of four to six frames of equipment, depending on options selected, as follows:

Toll Switch (ITS4), Typical 1-2 Line Group

Equipment frames:

*Maintenance (Figure 1)

Recorder (Figure 1)

*Control (Figure 1; shelves: Figures 7, 8A, 8B)

Control expansion or ONI option (Figure 1; ONI shelf: Figure 9)

*Matrix, Primary (Figure 1; shelves: Figures 10, 11, 12, 13, 14)

*Matrix, Secondary (Figure 1; shelves: Figures 10, 11, 12, 13, 14)

Voice banks, VB3 (Figure 3; shelves: Section 290-600-100)

*Required frames (minimum)

2.04 ITS5 Local Switch Configuration: The ITS5 functions as a local Class 5 office for subscribers, local and remote. The building blocks consist of a base switch (Figure 1) and at least one subscriber switch (Figure 2), either collocated or remote.

The remote subscriber switch requires a connection to span terminating equipment to interface with the repeatered line (Figure FO-2). The collocated subscriber switch will interface through PCM jackfields directly to the line groups of the base switch. A subscriber switch consists of seven or more frames of equipment, depending on options selected, as follows:

Local Switch (ITS5), Typical 1-2 Line Groups

Equipment frames:

- *Toll Switch (ITS4) Frames (2.03)
- *Subscriber Switch, Frame 1 (Figure 2; Shelves: Figure 16, 17)
- *Subscriber Switch, Frame 2 (Figure 2; Shelves: Figure 17)
- *Ringing Generator (Figure 4)
- Dual Tone Multifrequency Receiver (Figure 5; Shelves: Figure 15)
- *Required frames (minimum)

2.05 ITS4/5 Toll/Local Switch Configuration: The combination ITS4/5 switch provides both toll and local switching capabilities. The local switches provide Class 5 functions for subscribers, both local and remote. The building blocks for this configuration are a base switch (Figure 1) and at least one subscriber switch (Figure 2), either collocated or remote. This configuration is similar to an ITS5 system, but differs in application and software programming.

NOTE: Where a subscriber switch is added to an existing ITS4 system to provide local or remote subscriber switching capability, the system will become an ITS4/5 system.

A toll/local switch consists of seven or more frames of equipment, depending on options selected, as follows:

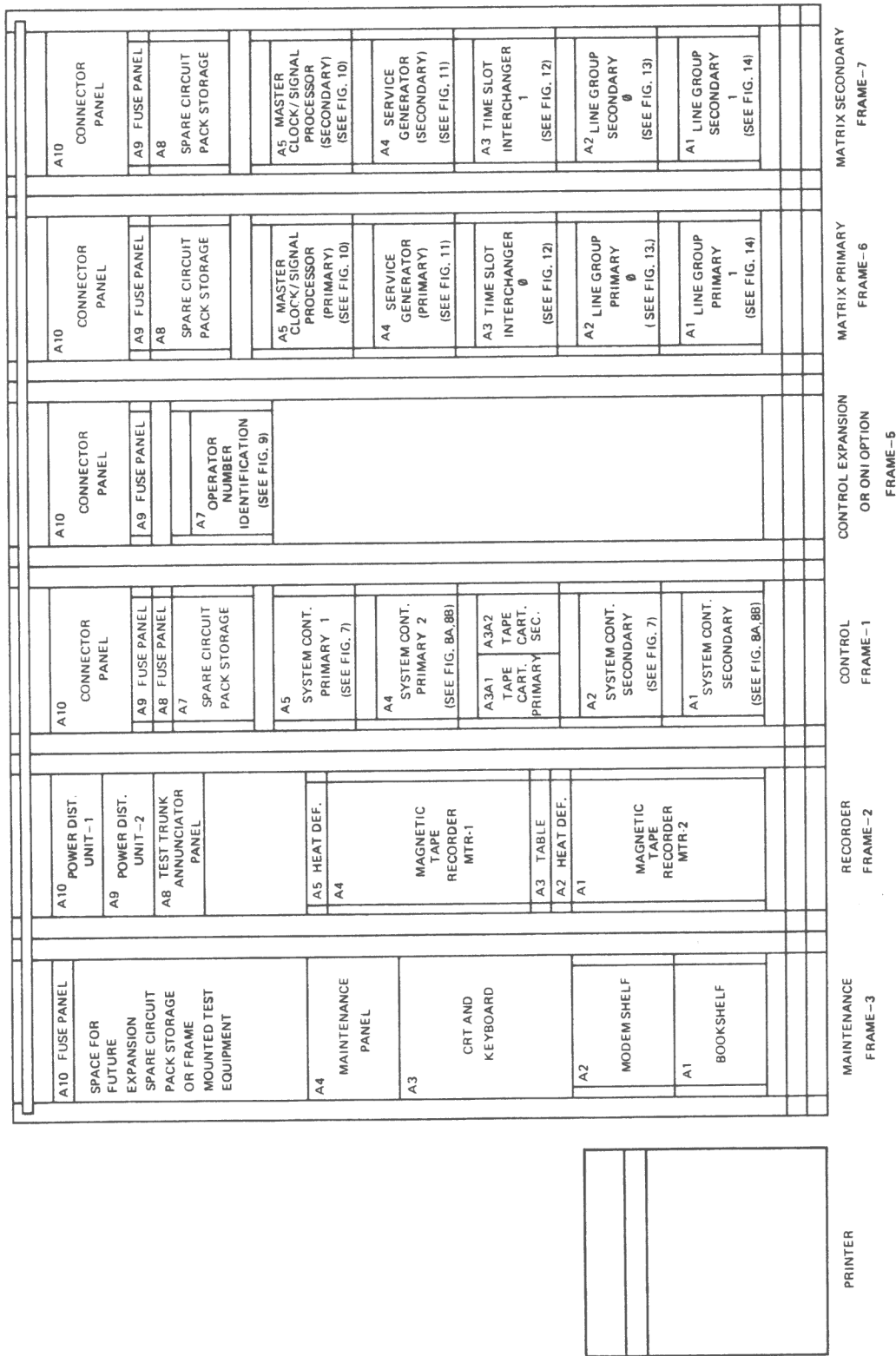
Toll/Subscriber Switch (ITS4/5), Typical 1-2 Line Group

Equipment frames:

- *Toll Switch (ITS4) Frames (2.03)
- *Subscriber Switch, Frame 1 (Figure 2; Shelves: Figure 16, 17)
- *Subscriber Switch, Frame 2 (Figure 2; Shelves: Figure 17)
- *Ringing Generator (Figure 4)
- Dual Tone Multifrequency Receiver (Figure 5; Shelves: Figure 15)
- Voice banks, VB3 (Figure 3; Shelves: Section 290-600-100)
- *Required frames (minimum)

2.06 The ITS base switch (Figure 1) consists of a maintenance frame, control frame, optional recorder frame, and two matrix frames. The recorder frame may be equipped with up to two optional magnetic tape recorders. A teleprinter is used for secondary system access and may be Vidar-supplied or customer-supplied. A control expansion frame is available (shown in Figure 1) and is normally used to house the ONI option (SATT 62).

- (a) The maintenance frame is equipped with a jackfield, a maintenance panel, a CRT, a primary access keyboard (input only), and a data modem shelf for both primary and secondary system access modems.
- (b) The recorder frame is equipped with one or two magnetic tape recorders and two power distribution unit shelves (collocated in the frame or in the customer's frame).
- (c) The control frame consists of a connector panel, a spare circuit pack - storage shelf, two shelves of system control (primary) circuit packs,



(82901-AD-E)

NOTE: 1. THE PRINTER IS NORMALLY LOCATED NEAR THE MAINTENANCE FRAME.

Figure 1

Base Switch (2-Line Group) Frame Layout

two cassette recorders for system program and billing overflow, and two shelves of system control (secondary) circuit packs.

(d) The optional control expansion frame is normally equipped with a connector panel and the SATT 62 ONI option equipment. This frame also allows for the addition of control shelves and circuit packs as required for expansion to 3- and 4-line-group systems.

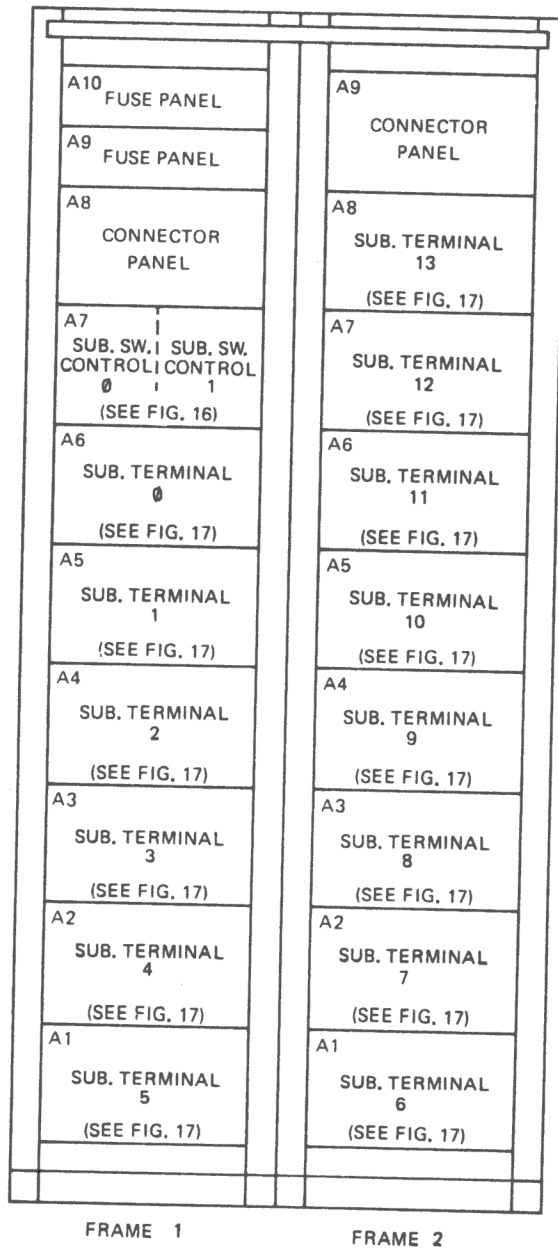
(e) The matrix primary frame consists of a connector panel, spare circuit pack storage, matrix control and signal processor, signal generator, time slot interchanger, and up to two line group interface units.

The matrix secondary frame consists of the same equipment as the matrix primary frame but is dedicated to the secondary system. Matrix expansion frames are provided if more than two line groups are required.

NOTE: The entire processor and control portions of the ITS base switch are duplicated to provide two independent systems. These systems are called primary and secondary.

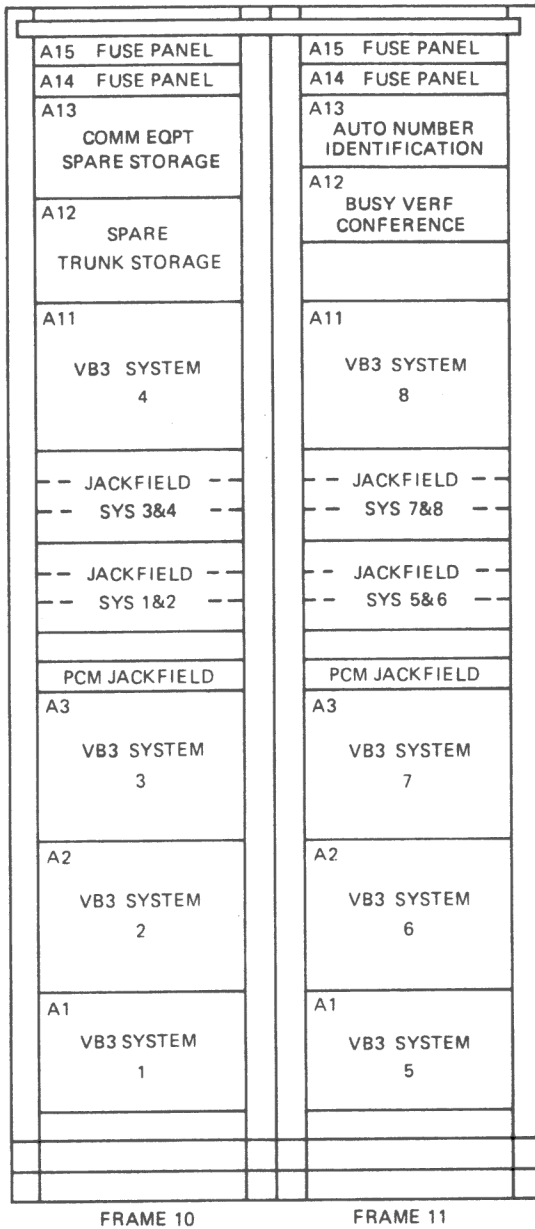
2.07 The subscriber switch (Figure 2) consists of two basic frames of equipment. The first frame of subscriber switch equipment consists of a fuse panel, a connector panel, a dual subscriber switch controller, and six subscriber terminal shelves. The second frame contains up to eight additional subscriber terminal shelves. A total of 336 subscriber lines (24 subscriber lines per subscriber terminal) can be served with 14 subscriber terminal shelves in each subscriber switch.

NOTE: The subscriber switch can be collocated with the base switch and would then be called a local subscriber switch (LSS). A subscriber switch that is located at a remote location from the base switch is called a remote subscriber switch (RSS).



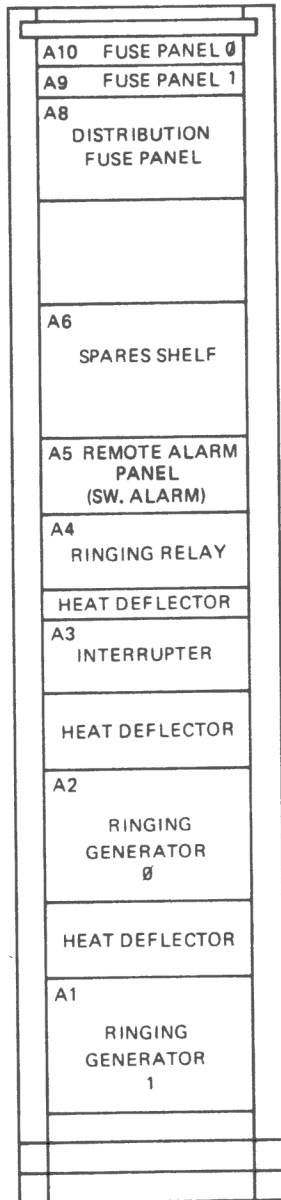
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Figure 2
Subscriber Switch Frame



NOTES: REFER TO PRACTICE 290-600-100 FOR DETAILS.

Figure 3
Voice Bank Frame



NOTES: RINGING GENERATORS ARE LORAIN TYPE T25E.

Figure 4

Ringing Generator Frame

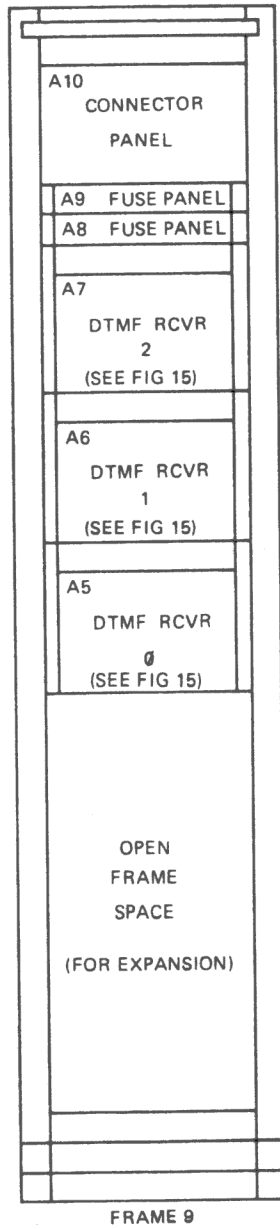
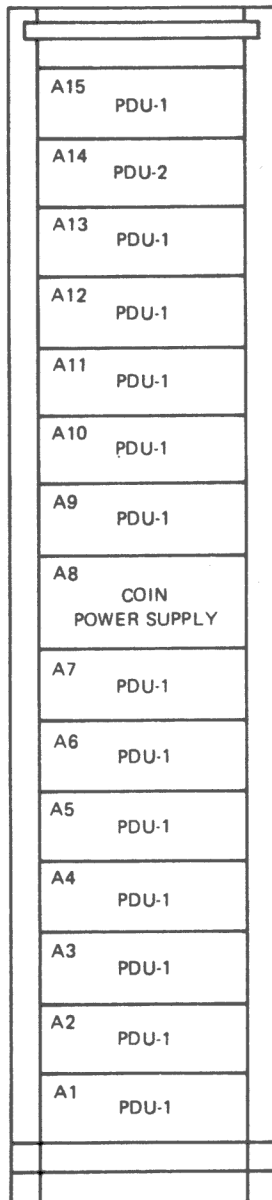


Figure 5

DTMF Receiver Frame



(2118A)

NOTES:

1. PDU-2 HAS BUILT-IN ALARM; AND ALL OTHER PDUs CONNECT TO THIS ALARM.
2. PDU-1 IS A 90456 (LORAIN), AND PDU-2 IS A 90499.
3. COIN POWER SUPPLY IS REDUNDANT (DUAL) TYPE FOR RELIABILITY.

Figure 6

Power Distribution Frame (Recommended)

2.08 Optional equipment frames available include voice bank frames (Figure 3), ringing generator frames (Figure 4), DTMF receiver frames (Figure 5), and power distribution frames (Figure 6).

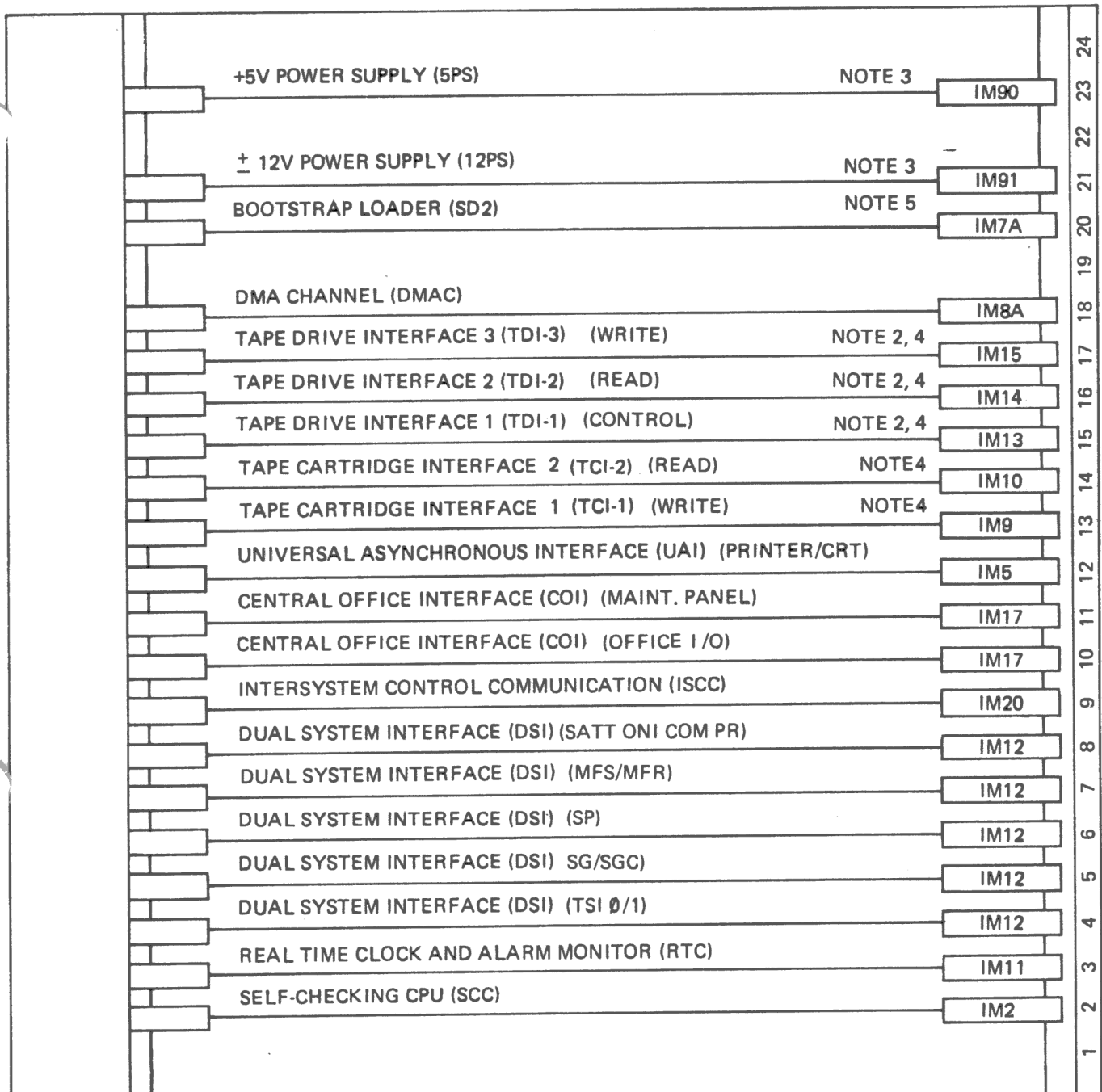
NOTE: Optional automatic number identification (ANI) equipment is normally installed in a voice bank (VB3) frame.

3. SHELF ARRANGEMENTS

3.01 The ITS System equipment frames contain shelves which hold up to 24 circuit packs. The shelves are shown in Figures 7 through 17. Each circuit pack is identified by its full name, reference designator, circuit pack number, and slot number. Notes in each figure cover optional configurations and exceptions. The following shelves are illustrated:

- (a) System Controller 1 (Primary and Secondary), Figure 7
- (b) System controller 2 (Primary and Secondary), Figures 8A, 8B
- (c) Operator Number Identification, Figure 9
- (d) Master Clock/Signal Processor (Primary and Secondary), Figure 10
- (e) Service Generator (Primary and Secondary), Figure 11
- (f) Time Slot Interchanger (TS0 and TS1), Figure 12
- (g) Line Group 0 (Primary and Secondary), Figure 13
- (h) Line Group 1 (Primary and Secondary), Figure 14
- (i) DTMF Receiver (0, 1, 2), Figure 15
- (j) Subscriber Switch Controller, Figure 16
- (k) Subscriber terminal, Figure 17

NOTE: The voice bank VB3 equipment shelves are covered in a separate series of practices. Refer to Section 290-600-100 for practice numbers. The optional automatic number identification (ANI) panel is normally installed in the VB3 frame. Shelf numbers shown are for typical systems and may vary in actual systems.

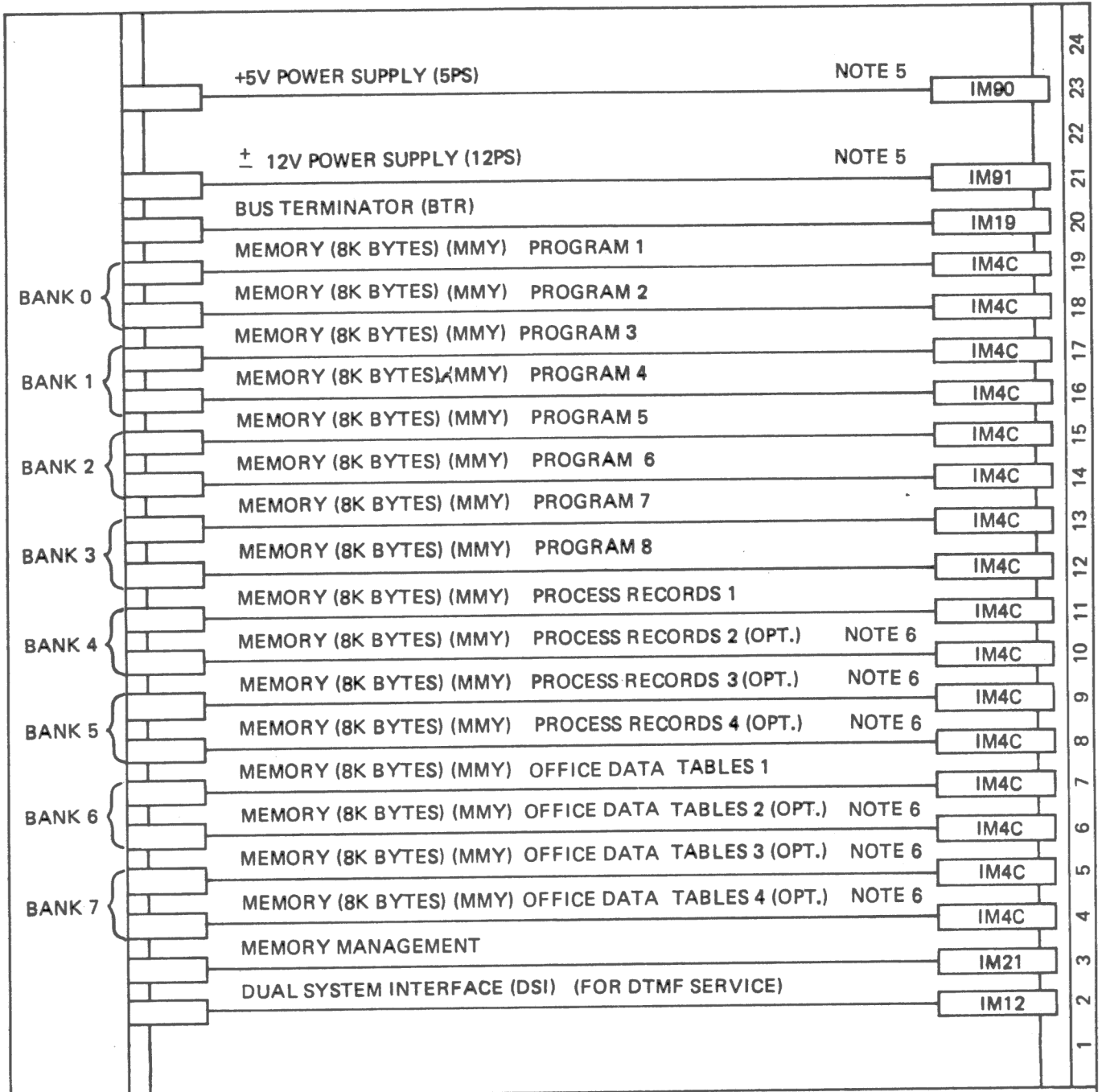


NOTES:

1. EACH CIRCUIT PACK GOES INTO THE PRIMARY (A5) AND SECONDARY (A2) SHELVES IN CONTROL FRAME. PRIMARY SHELF SHOWN HERE; SECONDARY SHELF IS SIMILAR.
2. IN PRIMARY SYSTEM ONLY IF ONE MTR IS USED: ALSO IN SECONDARY SYSTEM IF SECOND MTR IS USED.
3. EACH IM90 AND IM91 CIRCUIT PACK OCCUPYS TWO SLOT SPACES.
4. CIRCUIT PACKS IM13, IM14, AND IM15 ARE STRAPPED TOGETHER ON THEIR FRONT EDGES.
5. IM7A AND IM7 CIRCUIT PACKS ARE INTERCHANGEABLE.

Figure 7

System Controller No. 1(Primary, Secondary) Shelf(A2, A5)

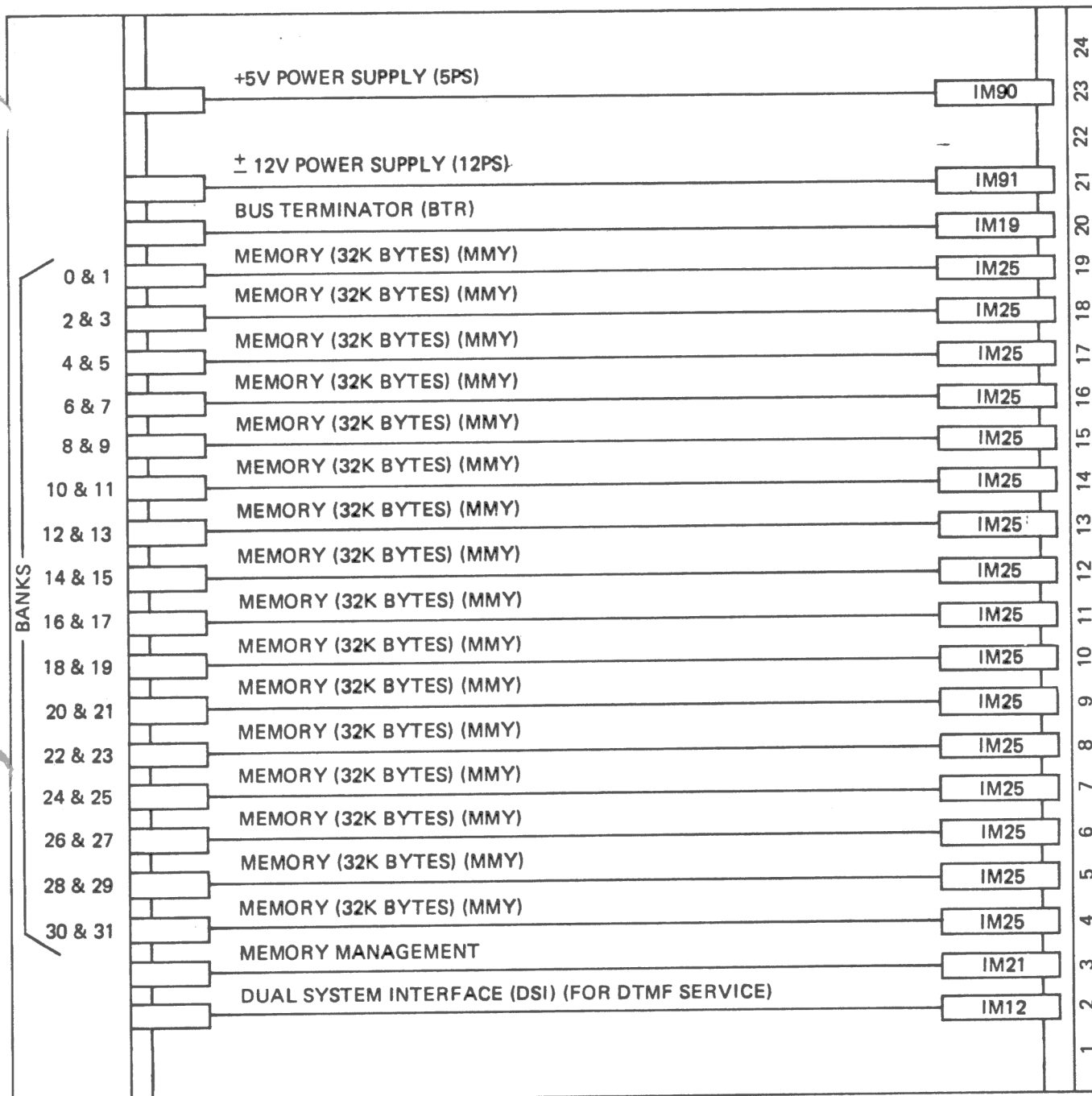


NOTES:

1. THIS CONFIGURATION IS FOR USE WITH THE IM24 BACKPLANE AND IM4 MEMORIES ONLY.
2. EACH CIRCUIT PACK GOES INTO THE PRIMARY (A4) AND SECONDARY (A1) SHELVES IN CONTROL FRAME. PRIMARY SHELF SHOWN HERE: SECONDARY SHELF IS SIMILAR.
3. THIS CONFIGURATION SHOWS THE MAXIMUM COMPLEMENT OF CIRCUIT PACKS POSSIBLE; ACTUAL COMPLEMENT MAY VARY FOR EACH INSTALLATION.
4. CIRCUIT PACK TYPES IM4B AND IM4C ARE INTERCHANGEABLE.
5. EACH IM90 AND IM91 CIRCUIT PACK OCCUPIES TWO SLOT SPACES
6. FOR ADDITIONAL MEMORY.

Figure 8A

System Controller No.2 (Primary, Secondary) Shelf(A1, A4), Using IM26 Backplane

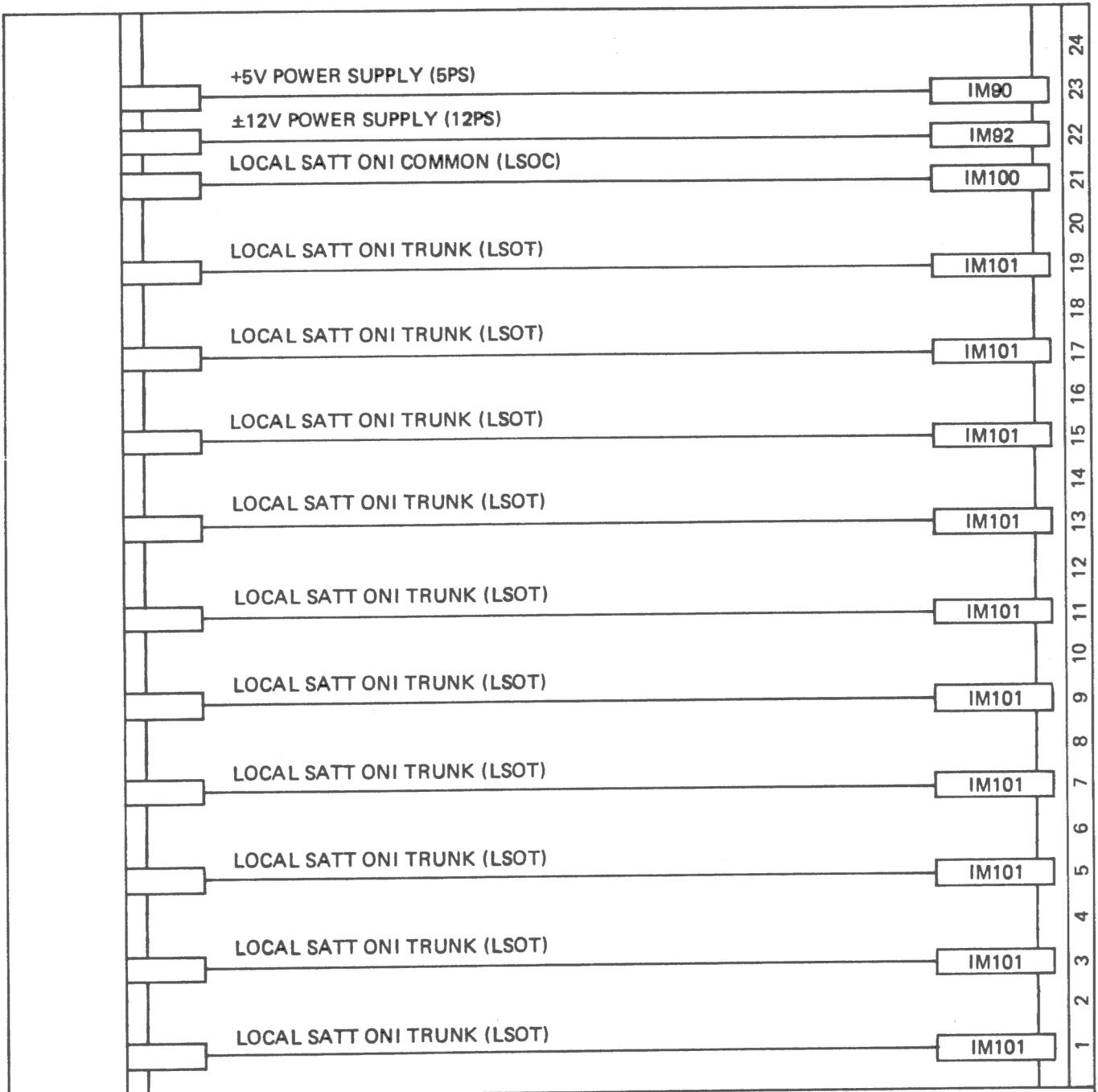


NOTES:

1. THIS CONFIGURATION IS FOR USE WITH THE IM26 BACKPLANE AND IM25 MEMORIES ONLY.
2. EACH CIRCUIT PACK GOES INTO THE PRIMARY (A4) AND SECONDARY (A1) SHELVES IN CONTROL FRAME. PRIMARY SHELF SHOWN HERE; SECONDARY SHELF IS SIMILAR.
3. THIS CONFIGURATION SHOWS THE MAXIMUM COMPLEMENT OF CIRCUIT PACKS POSSIBLE; ACTUAL COMPLEMENT MAY VARY FOR EACH INSTALLATION.
4. EACH IM90 AND IM91 CIRCUIT PACK OCCUPIES TWO SLOT SPACES.

Figure 8B

System Controller No. 2 (Primary, Secondary) Shelf (A1,A4), Using IM24 Blackplane

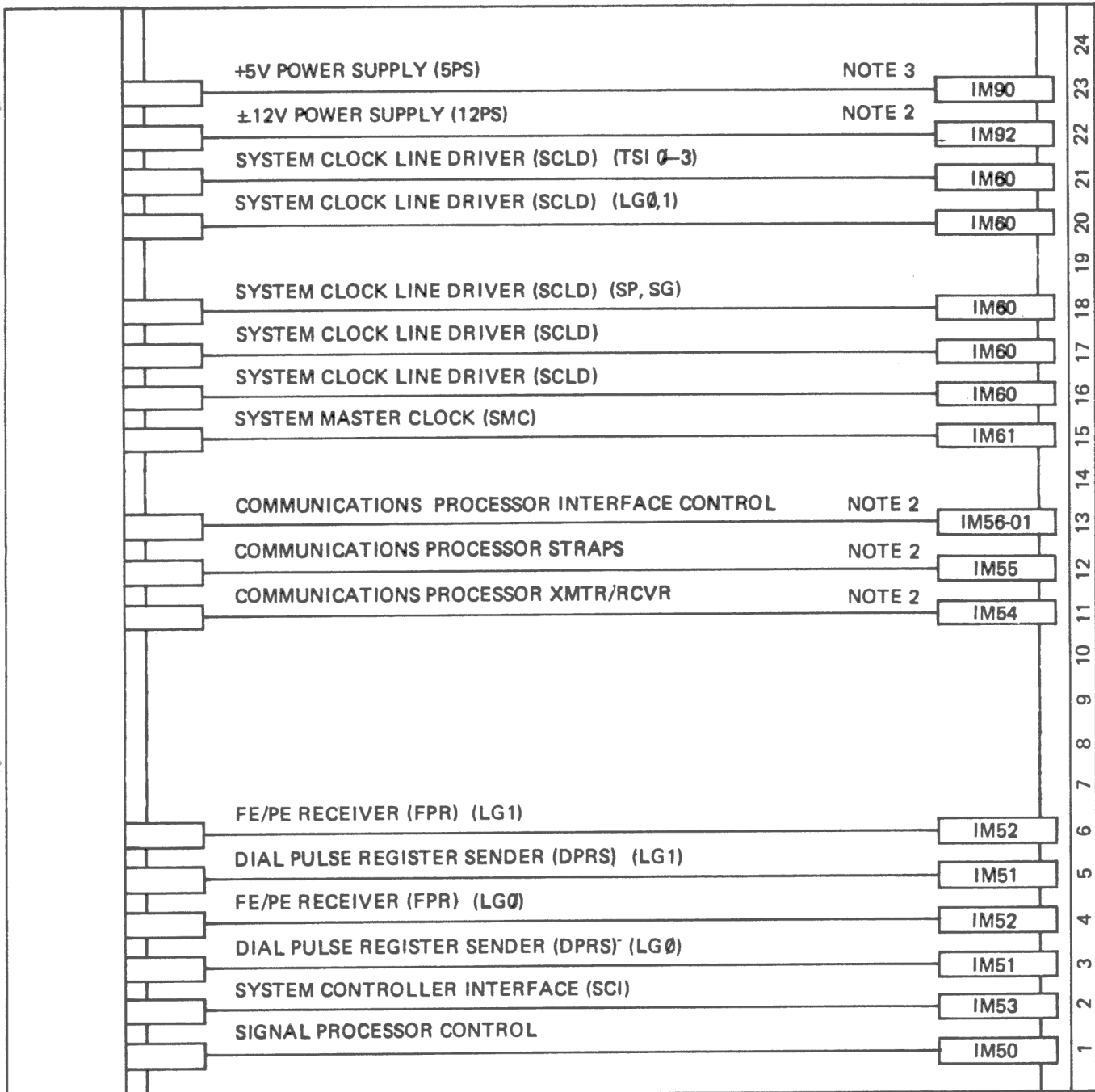


NOTES:

1. THIS IS SHELF A7 OF THE CONTROL EXPANSION OR ONI OPTION FRAME.
2. EACH IM90 AND IM101 CIRCUIT PACK OCCUPIES TWO SLOT SPACES.

Figure 9

Operator Number Identification (SATT 62) Shelf (A7)

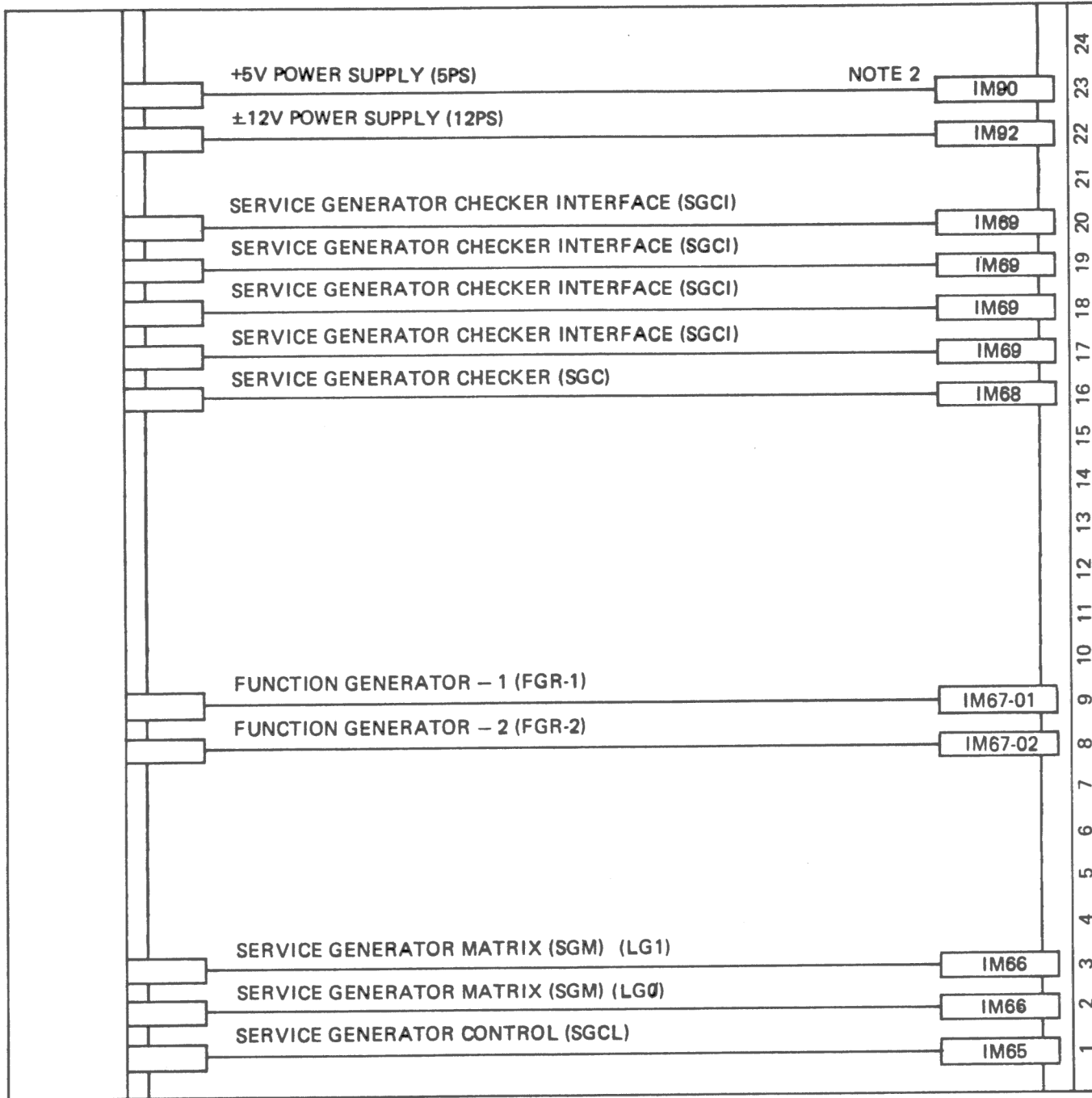


NOTES:

1. EACH CIRCUIT PACK GOES INTO BOTH PRIMARY AND SECONDARY SHELVES A5 OF MATRIX FRAMES 6 AND 7. PRIMARY SHELF SHOWN HERE; SECONDARY SHELF IS SIMILAR.
2. ADDED WHEN BASE SWITCH (ITS4) IS CONNECTED TO A SUBSCRIBER SWITCH (LOCAL OR REMOTE).
3. THE IM90 CIRCUIT PACK OCCUPIES TWO SLOT SPACES.

Figure 10

Master Clock/Signal Processor (Primary and Secondary) Shelf (A5)

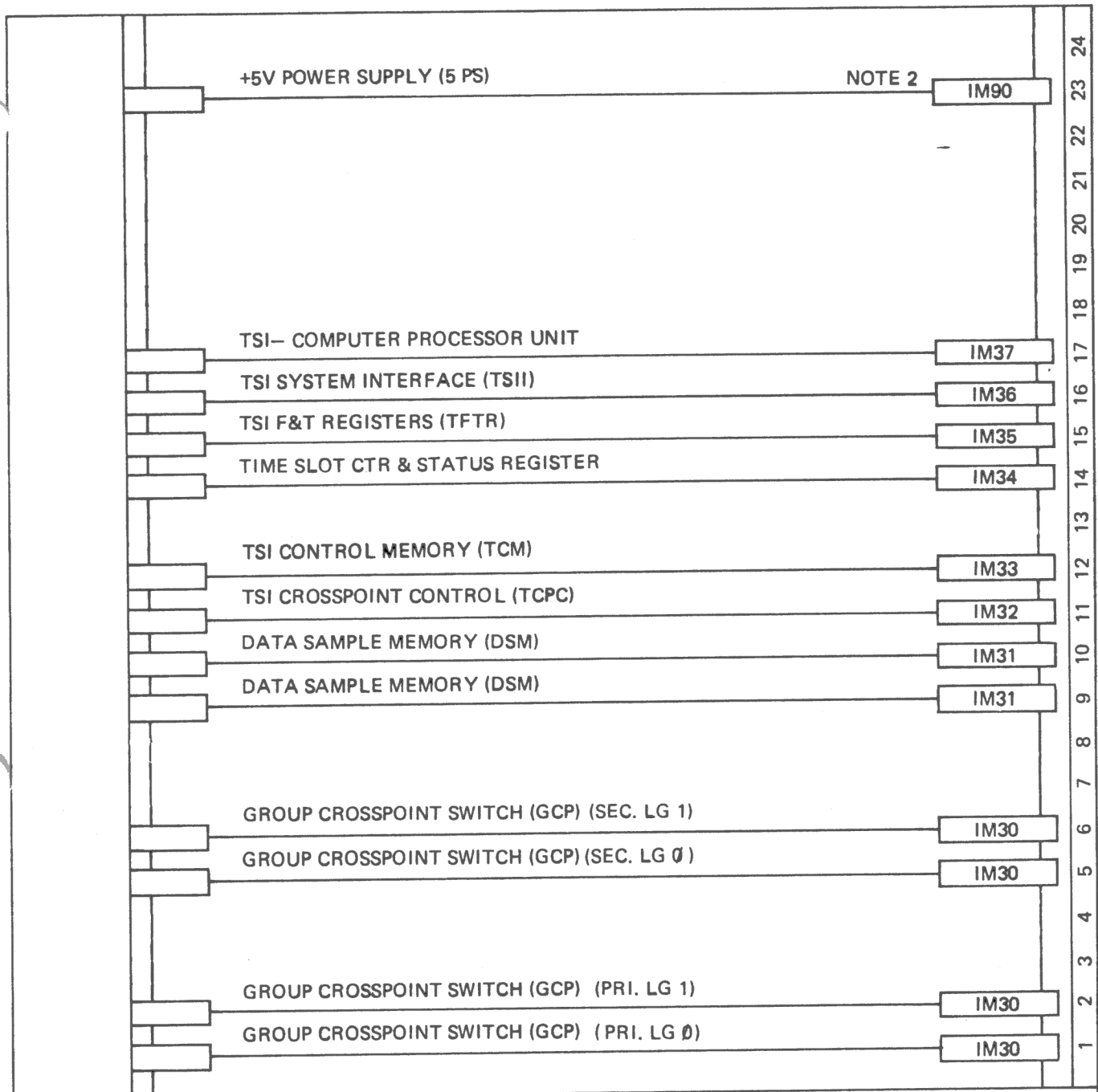


NOTES:

1. EACH CIRCUIT PACK GOES INTO BOTH PRIMARY AND SECONDARY SHELVES A4 OF MATRIX FRAMES 6 AND 7. PRIMARY SHELF SHOWN HERE; SECONDARY SHELF IS SIMILAR.
2. THE IM90 CIRCUIT PACK OCCUPIES TWO SLOT SPACES.

Figure 11

Service Generator (Primary and Secondary) Shelf (A4)

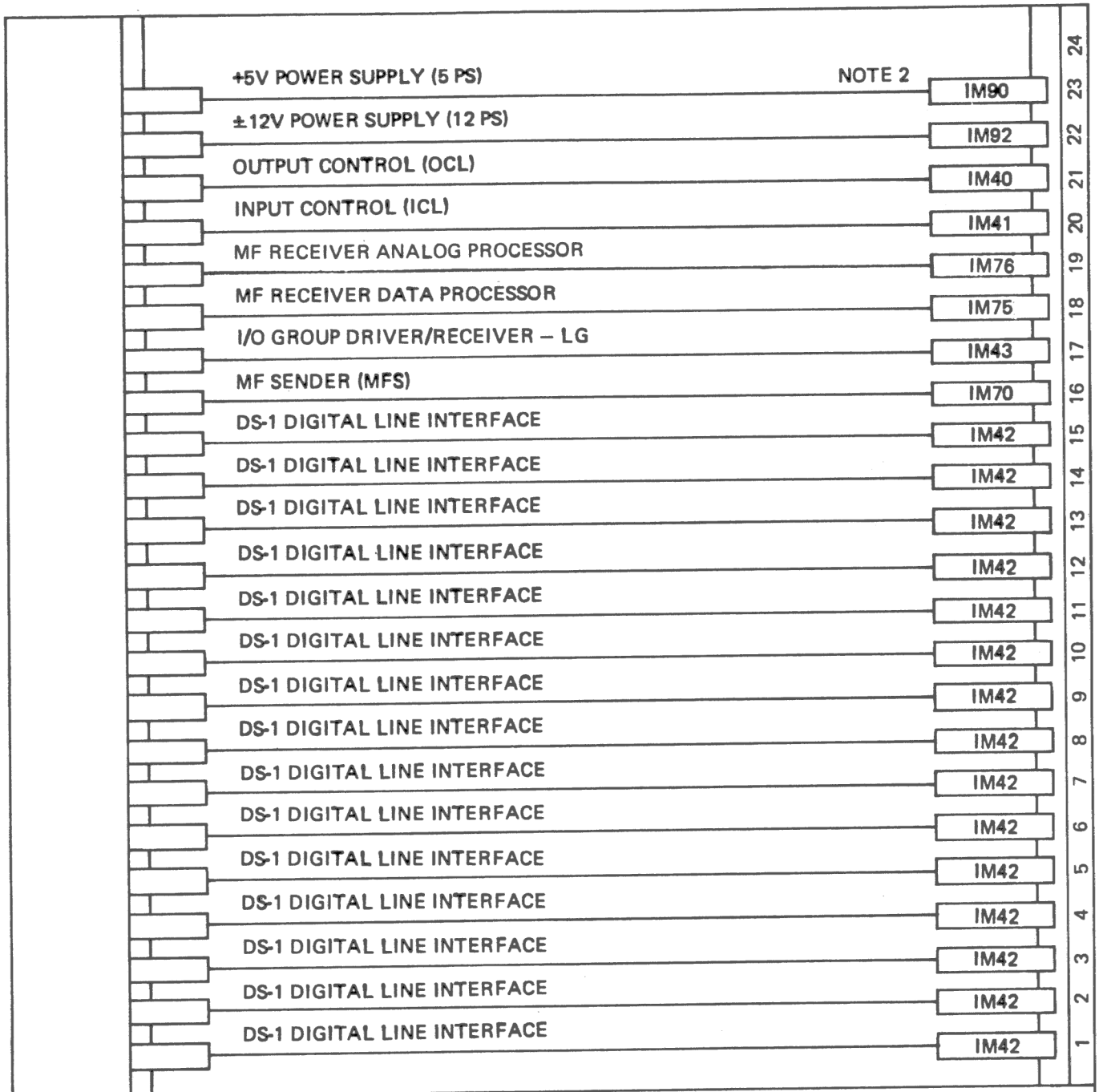


NOTES:

1. EACH CIRCUIT PACK GOES INTO SHELF A3 TSI-0 AND TSI-1 OF MATRIX FRAMES 6 AND 7. SHELF TSI-0 SHOWN HERE; SHELF TSI-1 IS SIMILAR.
2. THE IM90 CIRCUIT PACK OCCUPIES TWO SLOT SPACES.

Figure 12

Time Slot Interchanger (TSI-0, TSI-1) Shelf (A3)

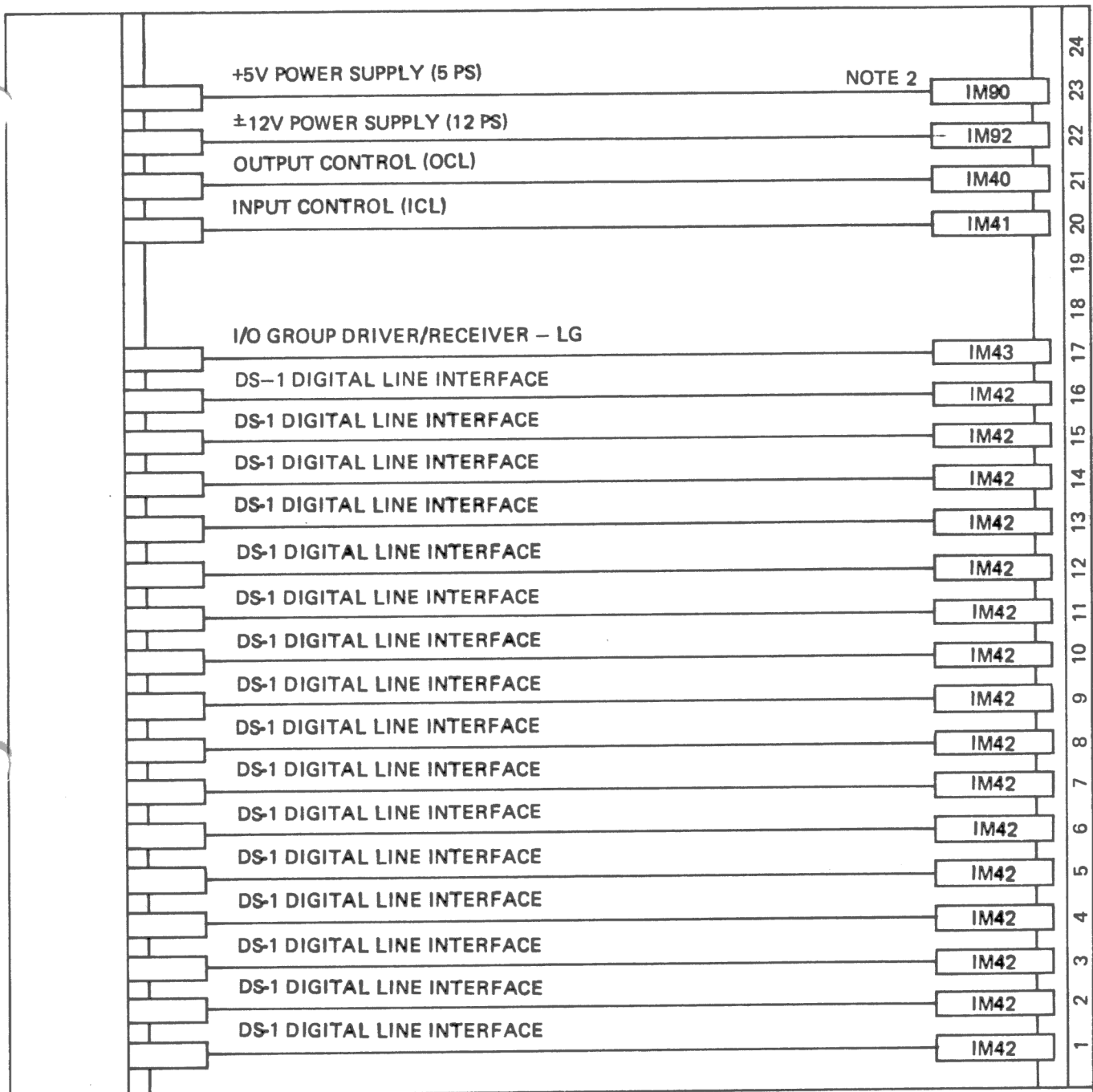


NOTES:

1. EACH CIRCUIT PACK GOES INTO BOTH PRIMARY AND SECONDARY SHELVES A2, LINE GROUP 0 OF MATRIX FRAMES 6 AND 7. PRIMARY SHELF SHOWN HERE: SECONDARY SHELF IS SIMILAR.
2. THE IM90 CIRCUIT PACK OCCUPIES TWO SLOT SPACES.

Figure 13

Line Group 0 (Primary and Secondary) Shelf (A2)

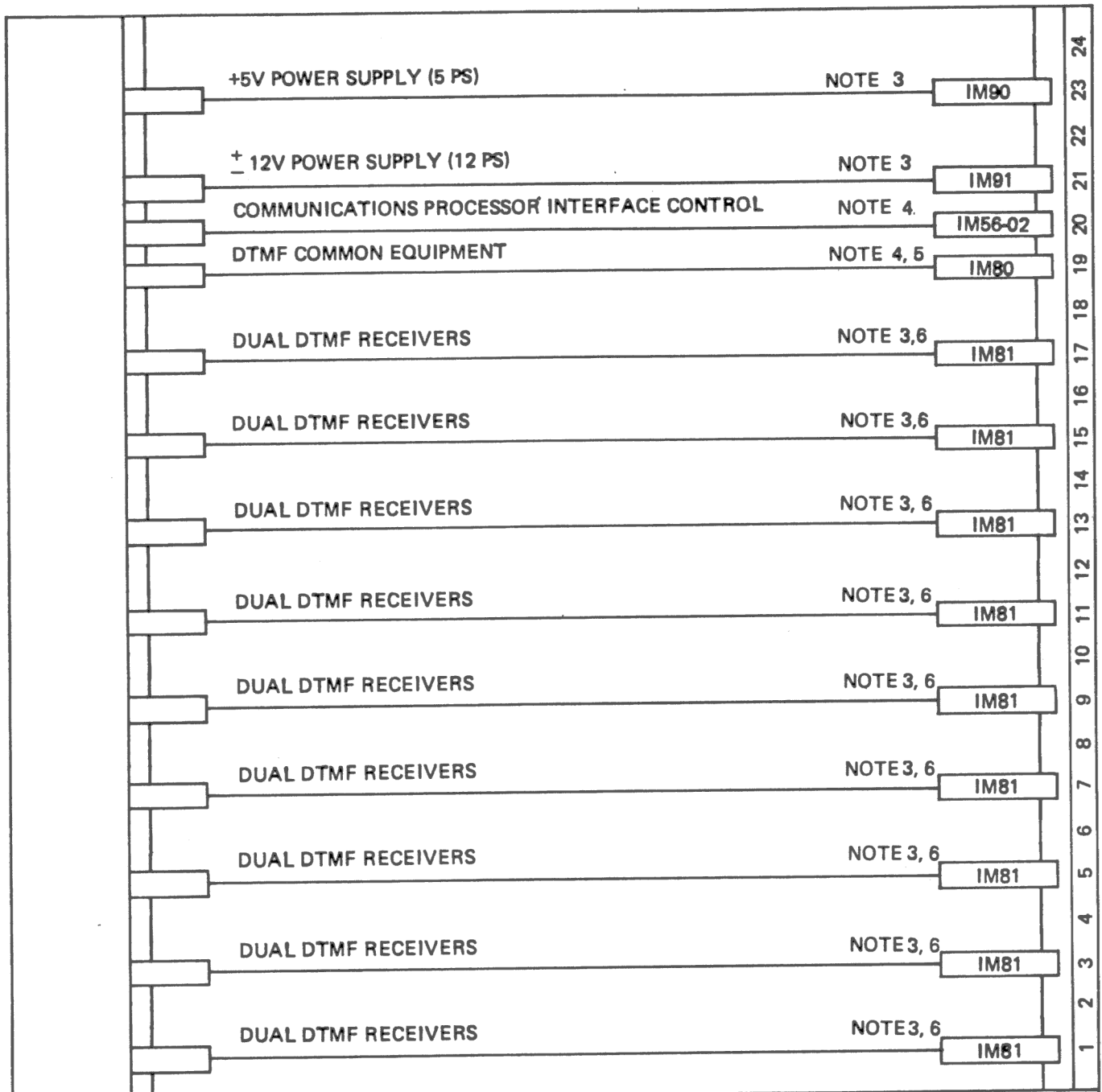


NOTES:

1. EACH CIRCUIT PACK GOES INTO BOTH PRIMARY AND SECONDARY SHELVES A1, LINE GROUP 1 OF MATRIX FRAMES 6 AND 7. PRIMARY SHELF SHOWN HERE; SECONDARY SHELF IS SIMILAR.
2. THE IM90 CIRCUIT PACK OCCUPIES TWO SLOT SPACES.

Figure 14

Line Group 1 (Primary and Secondary) Shelf (A1)

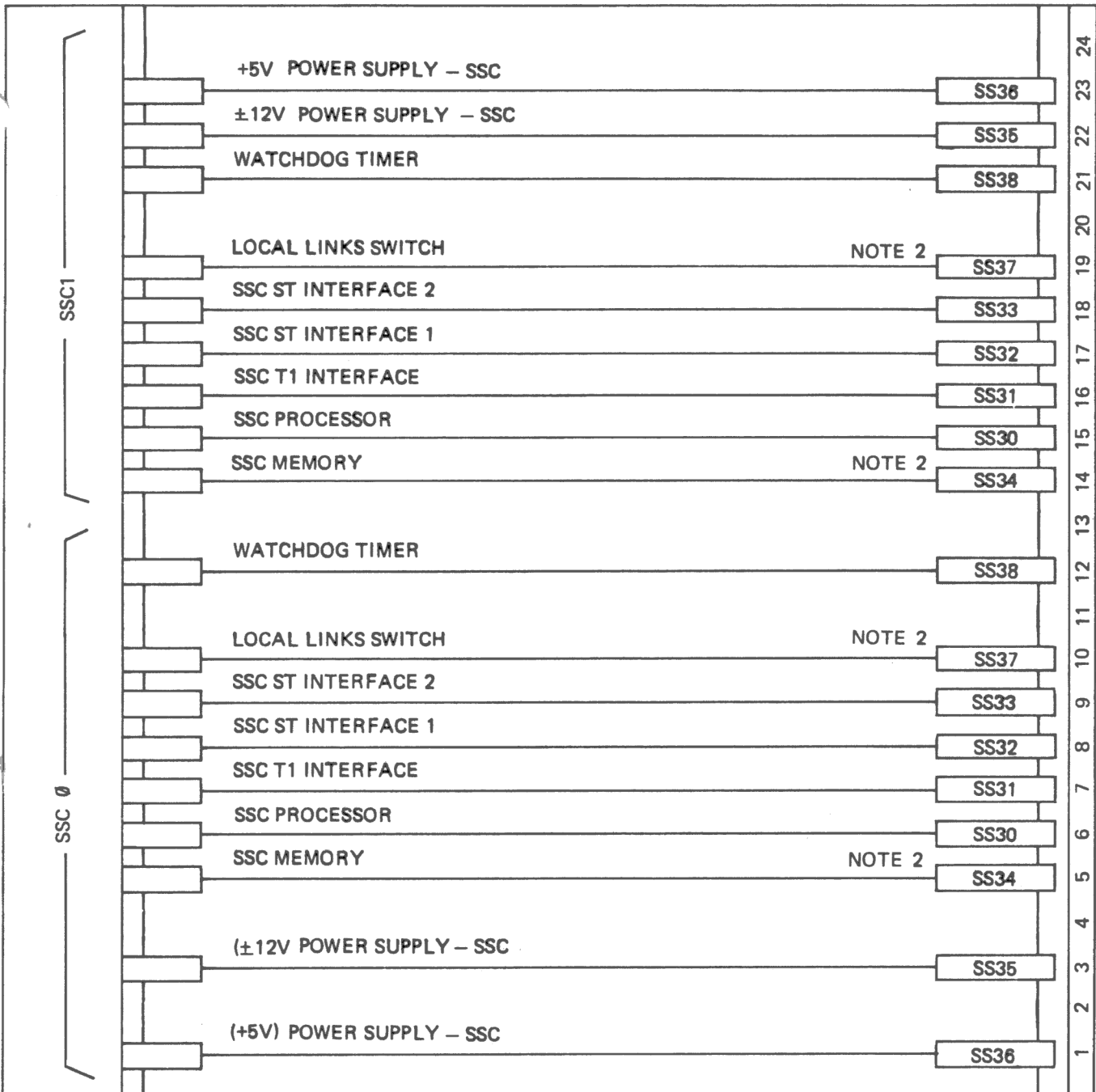


NOTES:

1. EXCEPT AS NOTED, EACH CIRCUIT PACK GOES INTO SHELVES A5(0), OR A6(1), OR A7(2) OF DTMF FRAME.
2. SHELF A7 IS OPTIONAL AND USED FOR EXPANSION (RECEIVER 2).
3. EACH IM81, AND IM90, AND IM91 CIRCUIT PACK OCCUPIES TWO SLOT SPACES.
4. THIS CIRCUIT PACK IS USED IN SHELVES 0 AND 1, BUT NOT IN SHELF 2.
5. EACH IM 80 REQUIRES ONE IM121-1 (IN THE VB3 SUBSYSTEM) .
6. EACH IM81 REQUIRES TWO IM121-1 (IN THE VB3 SUBSYSTEM).

Figure 15

DTMF Receiver (0,1,2) Shelf (A5, A6, A7)

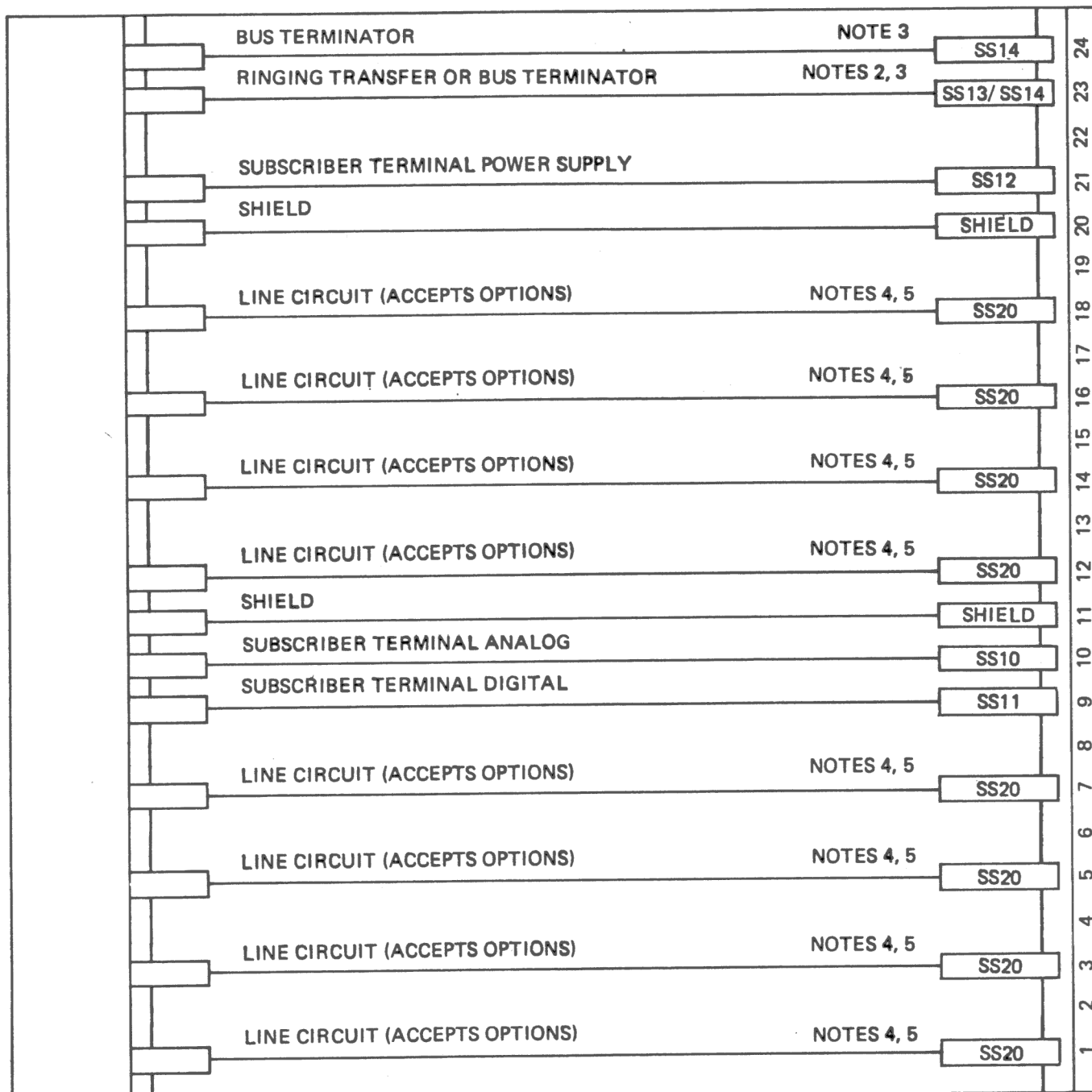


NOTES:

1. THIS SHELF CONTAINS BOTH SUBSCRIBER SWITCH CONTROLLERS (SSC0 AND SSC1) LOCATED IN SHELF A7 OF SUBSCRIBER SWITCH FRAME.
2. THESE CIRCUIT PACKS INSTALLED FOR REMOTE SUBSCRIBER SWITCH CONFIGURATION ONLY.

Figure 16

Subscriber Switch Controllers (SSC0, SSC1) Shelf (A7)



NOTES:

1. THIS SHELF LAYOUT IS TYPICAL FOR ALL SUBSCRIBER TERMINAL SHELVES.
2. IN SHELF 0 ONLY, SLOT 23 IS ALWAYS LOADED WITH AN SS13 RINGING TRANSFER CIRCUIT PACK.
3. IN LAST OR HIGHEST NUMBERED SHELF (1 THROUGH 13) ONLY, SLOTS 23 AND 24 ARE ALWAYS LOADED WITH SS14 BUS TERMINATOR CIRCUIT PACKS.
4. EACH SS20 CIRCUIT PACK OCCUPIES TWO SLOT SPACES.
5. THE SS20 HAS TWO VERSIONS, 01 AND 03; BOTH PROVIDE BASIC LINE SERVICES, AND THE 03 VERSION ACCEPTS OPTION MODULES (SATELLITE BOARDS) AS FOLLOWS: SS22 DIVIDED RINGING, SS24 GROUND START, SS25 COIN, AND SS26 C-LEAD.

Figure 17

Subscriber Terminal Shelf (0, 1 and Up)

4. FUSE ASSIGNMENTS

4.01 The ITS System uses power distribution units (20 amperes fused) and fuse panels (Vidar types 1090 and 1093, 1 to 7.5 amperes fused). The power distribution unit (PDU) panels are shown in Figure 1, and the fuse panels are shown in Figures 1 through 5. In some systems a power distribution frame (Figure 6), with up to 14 PDUs, is used. Fuse assignments are listed in Table 1 for the PDUs and fuse panels. These assignments are typical for an ITS System configuration using a subscriber switch and ringing generator.

5. CABLING AND WIRING DIAGRAMS

5.01 The ITS System equipment intrasystem cabling and field-installed cable connection points are shown in Figures 18 and 19 and FO-1 through FO-4. Each figure shows the cable connection (terminal, jack, or plug numbers) and the cable number. The following equipment cabling and connections are illustrated:

- (a) Base switch (intrasystem), Figure FO-1
- (b) DTMF receiver (intrasystem), Figure 18
- (c) Subscriber switch (intrasystem), Figure FO-2
- (d) Base switch (field-installed), Figure FO-3
- (e) DTMF receiver (field-installed), Figure 19
- (f) Power and alarm wiring (field-installed), Figure FO-4

Table 1. PDU and Fuse Panel Fuse Assignments

PDU 1 (Recorder Rack, Shelf A10)		Fuse Panel	Fuse No. & Amperage	Unit Served	Location
F1 (20A)	to Maintenance Shelf A10	1090	F1 (3A)	Maintenance Panel TB1-2	Shelf A4
			F2 (1A)	Maintenance Panel TB1-5	Shelf A4
			F3 (5A)	ONI Panel	Shelf A6
F2 (20A)	to Recorder Shelf A4			Mag Tape Recorder 1	Shelf A4
F3 (20A)	to Control Shelf A9	1090 Primary	F1 (3A)	Tape Cartridge Primary	Shelf A3A1
			F2 (5A)	System Controller Primary 2	Shelf A4
			F3 (5A)	System Controller Primary 1	Shelf A5
F4 (20A)	to Matrix Shelf A9	1090 Primary	F2 (5A)	Line Group Primary 0	Shelf A2
			F4 (5A)	Time Slot Interchanger 0	Shelf A4
			F5 (5A)	Signal Generator Primary	Shelf A5
			F6 (5A)	Master Clock/Signal Processor Primary	Shelf A6
F6 (20A)	to VB3 Shelf A15	1093 Primary	F1 (3A)	TB1 TERM, System 1	Shelf A1
			F2 (5A)	TB2 TALK, System 1	Shelf A1
			F3 (1A)	TB1 CGA, System 1	Shelf A1
			F19 (1A)	PCM Jackfield	Shelf A4
F5 (20A)	Line Group Expansion as Required				
F7 (20A)	VB3 Expansion as Required				
F8 (20A)					

Table 1. PDU and Fuse Panel Fuse Assignments (Cont)

PDU 2 (Recorder Rack, Shelf A9)		Fuse Panel	Fuse No. & Amperes	Unit Served	Location
F2 (20A)	to Recorder Shelf A1			Mag Tape Recorder #2	Shelf A1
F3 (20A)	to Control Shelf A8	1090 Secondary	F1 (5A)	System Controller Secondary 2	Shelf A1
			F2 (5A)	System Controller Secondary 1	Shelf A2
			F3 (3A)	Tape Cartridge Secondary	Shelf A3A2
F4 (20A)	to Matrix Shelf A9	1090 Secondary	F2 (5A)	Line Group Secondary 0	Shelf A2
			F4 (5A)	Time Slot Interchanger 1	Shelf A4
			F5 (5A)	Signal Generator Secondary	Shelf A5
			F6 (5A)	Master Clock/Signal Processor Secondary	Shelf A6
F6 (20A)	to VB3 Shelf A14	1093 Secondary	F4 (3A)	TB1 TERM, System 2	Shelf A2
			F5 (5A)	TB2 TALK, System 2	Shelf A2
			F6 (1A)	TB1 CGA, System 2	Shelf A2
F5 (20A)	Line Group Expansion as Required				
F1 (20A)	VB3 Expansion as Required				
F7 (20A)					

Table 1. PDU and Fuse Panel Fuse Assignments (Cont)

*PDU 1 (Power Distribution Rack)		Fuse Panel	Fuse No. & Amperage	Unit Served	Location
F2 (20A)	to Ring Genera- tor Frame, Shelf A10	1090 0	F1 (2A)	Interrupter 0	Shelf A3
			F2 (7.5A)	T25E Ringing Generator 0	Shelf A2
			F3 (0.5A)	Trip Battery 0	Shelf A2
			F4 (1A)	Ring Relay 0	Shelf A4
			F5 (0.5A)	Distribution Fuse Panel	Shelf A8
F1 (20A)	to Subscriber Switch, Shelf A10	1093	F1,F8(3A)	Subscriber Terminal 0	Shelf 2A6
			F2,F9(3A)	Subscriber Terminal 2	Shelf 1A4
			F3,F10(3A)	Subscriber Terminal 4	Shelf 1A2
			F4,F11(3A)	Subscriber Terminal 6	Shelf 2A1
			F5,F12(3A)	Subscriber Terminal 8	Shelf 2A3
			F6,F13(3A)	Subscriber Terminal 10	Shelv 2A5
			F7,F14(3A)	Subscriber Terminal 12	Shelf 2A7
			F15 (1A)	TB3, 0 Ring	Shelf A8
			F16 (1A)	TB3, 0 Relay	Shelf A8
			F17, (3A)	Subscriber Switch Controller 0	Shelf A7
F20 (1A)	TB1	Shelf A9			
*May be installed in customer frame or located where convenient					

Table 1. PDU and Fuse Panel Fuse Assignments (Cont)

*PDU 2 (Power Distribution Rack)		Fuse Panel	Fuse No. & Amperage	Unit Served	Location
F2 (20A)	to Ringing Gen- erator Frame, Shelf A9	1090 1	F1 (2A)	Interrupter 1	Shelf A3
			F2 (7.5A)	T25E Ringing Generator 1	Shelf A1
			F3 (0.5A)	Trip Battery 1	Shelf A1
			F4 (1A)	Ring Relay 1	Shelf A4
			F5 (0.5A)	Switch Alarm	Shelf A5
F1 (20A)	to Subscriber Switch, Shelf A9	1093	F1,F8(3A)	Subscriber Terminal 1	Shelf 1A5
			F2,F9(3A)	Subscriber Terminal 3	Shelf 1A3
			F3,F10(3A)	Subscriber Terminal 5	Shelf 1A1
			F4,F11(3A)	Subscriber Terminal 7	Shelf 2A2
			F5,F12(3A)	Subscriber Terminal 9	Shelf 2A4
			F6,F13(3A)	Subscriber Terminal 11	Shelf 2A6
			F7,F14(3A)	Subscriber Terminal 13	Shelf 2A8
			F15 (1A)	TB3, 1 Ring	Shelf A8
			F16 (1A)	TB3, 1 Relay	Shelf A8
			F17 (3A)	Subscriber Switch Controller 1	Shelf A8
F20 (1A)	TB1	Shelf A10			

NOTE: On 1093 fuse panels, the power bus distribution terminals and associated fuses have the same number.

*May be installed in customer frame or located where convenient

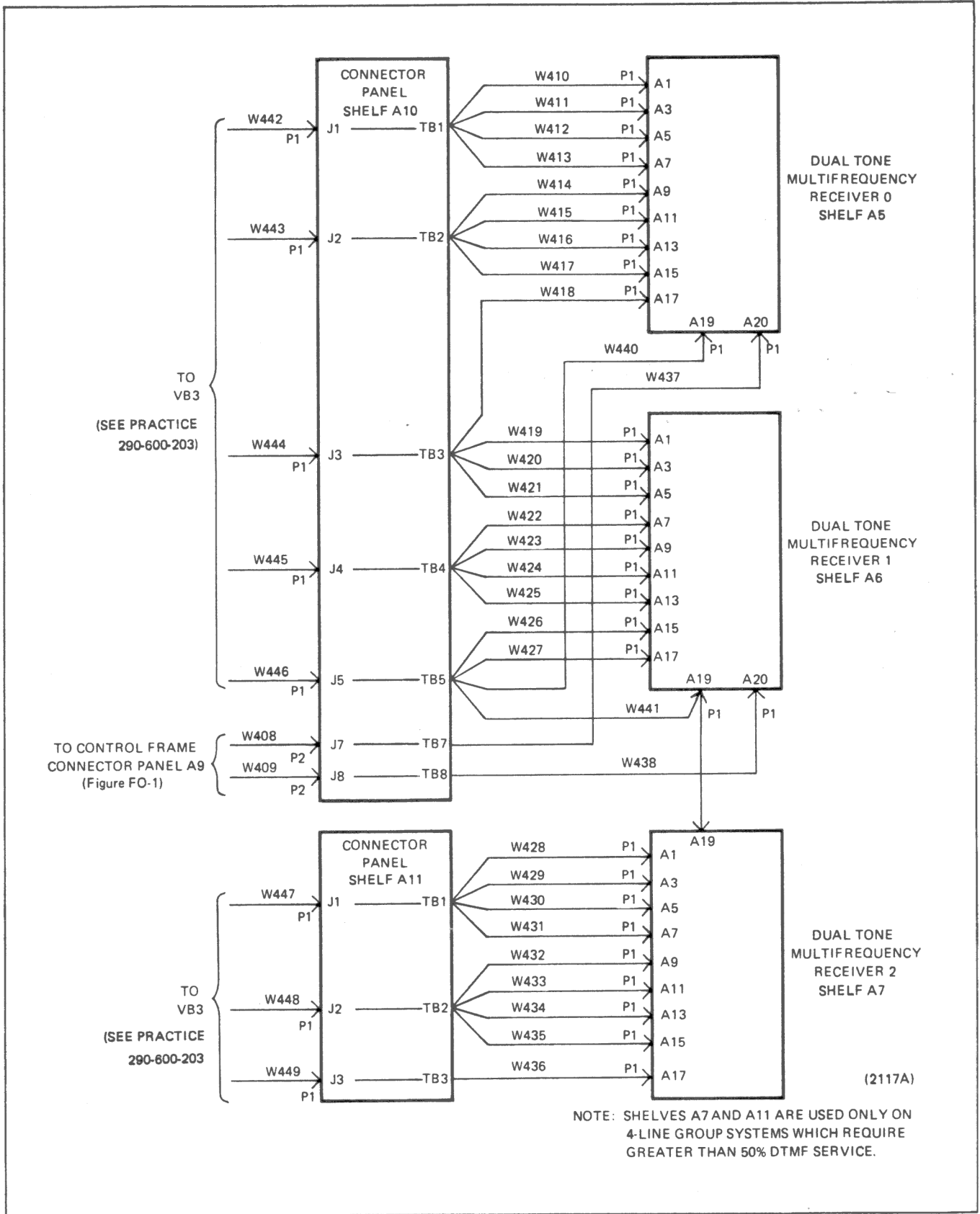
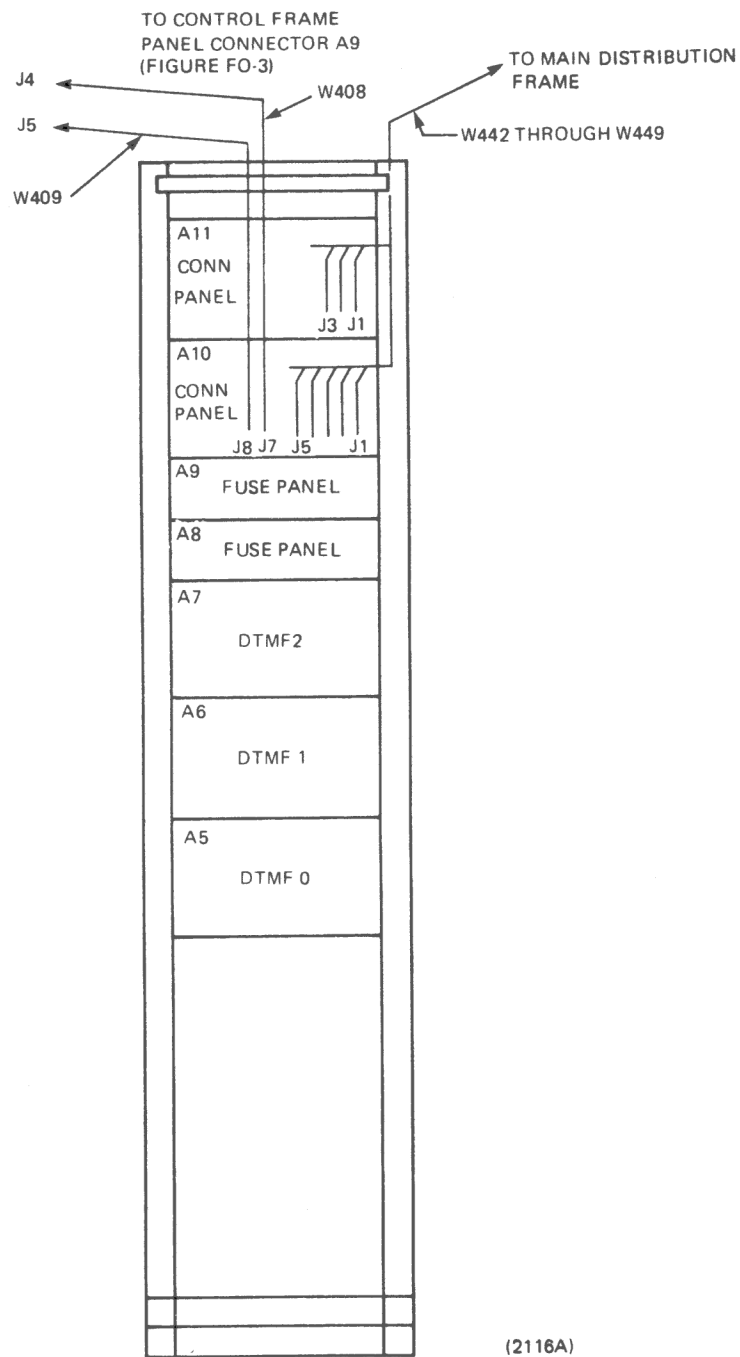


Figure 18

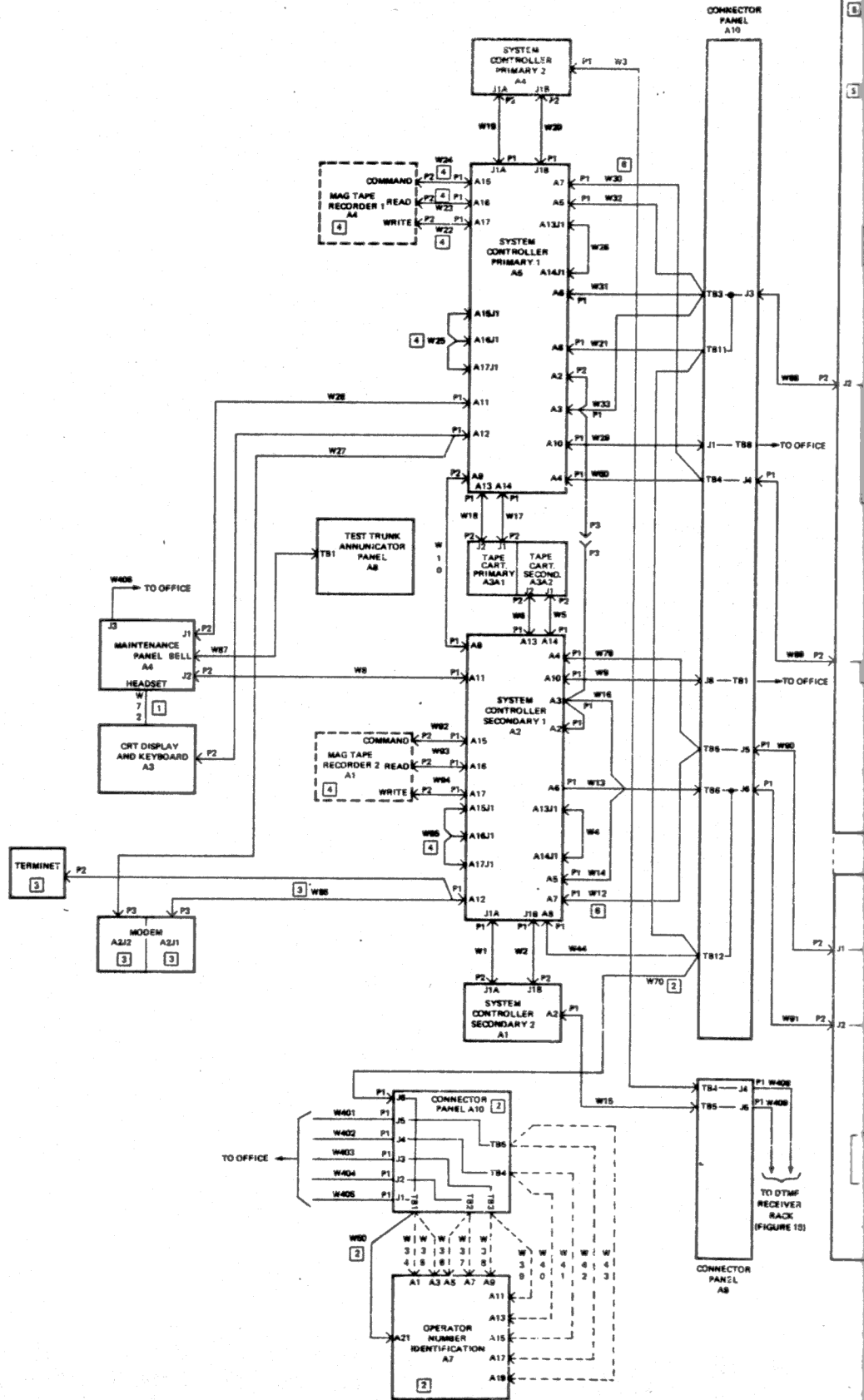
DTMF Receiver Frame Intrasystem Cabling Diagram



NOTE: THIS IS A REAR VIEW.

Figure 19

DTMF Receiver - Field-Installed Cables (Rear View, Typical)



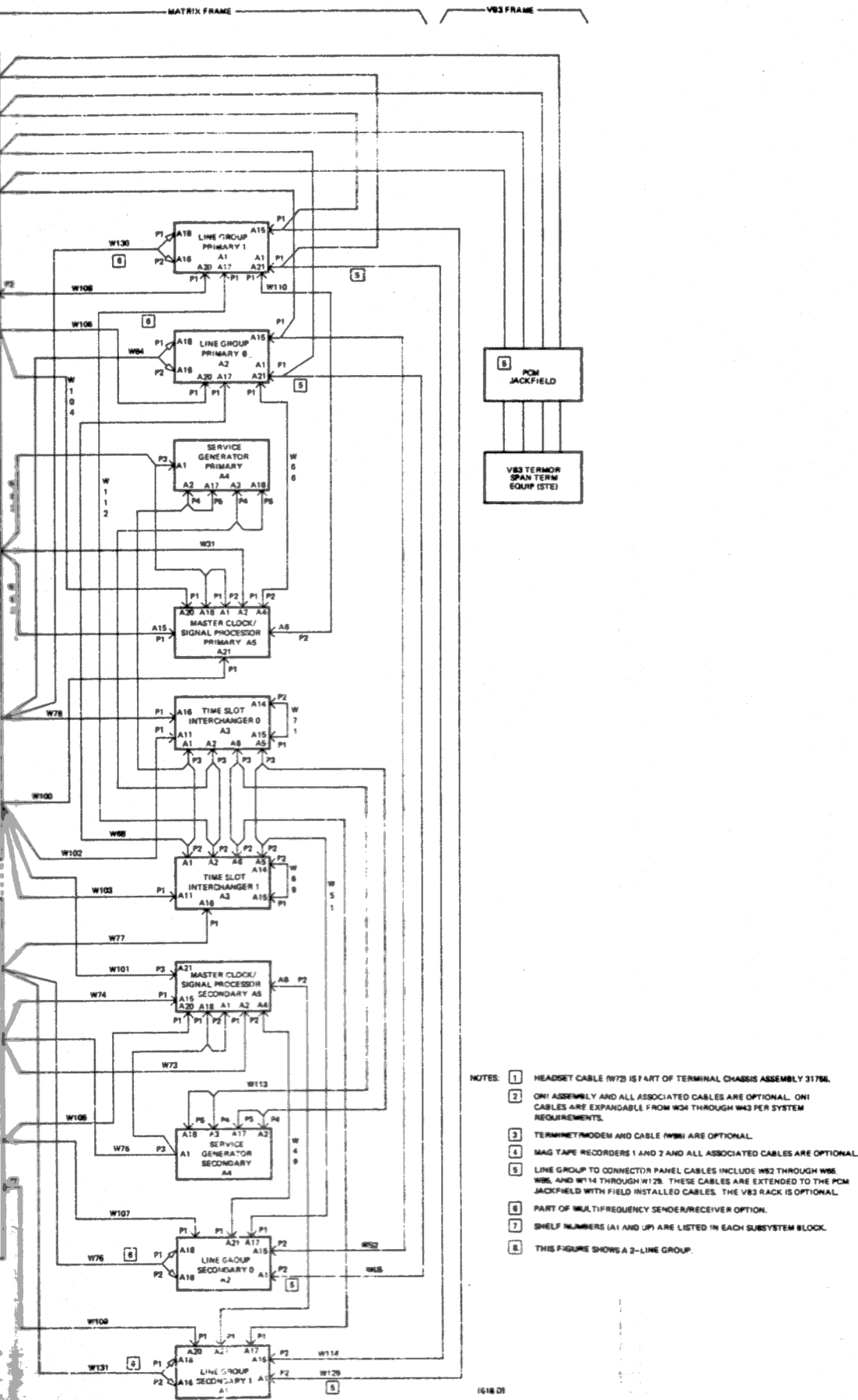
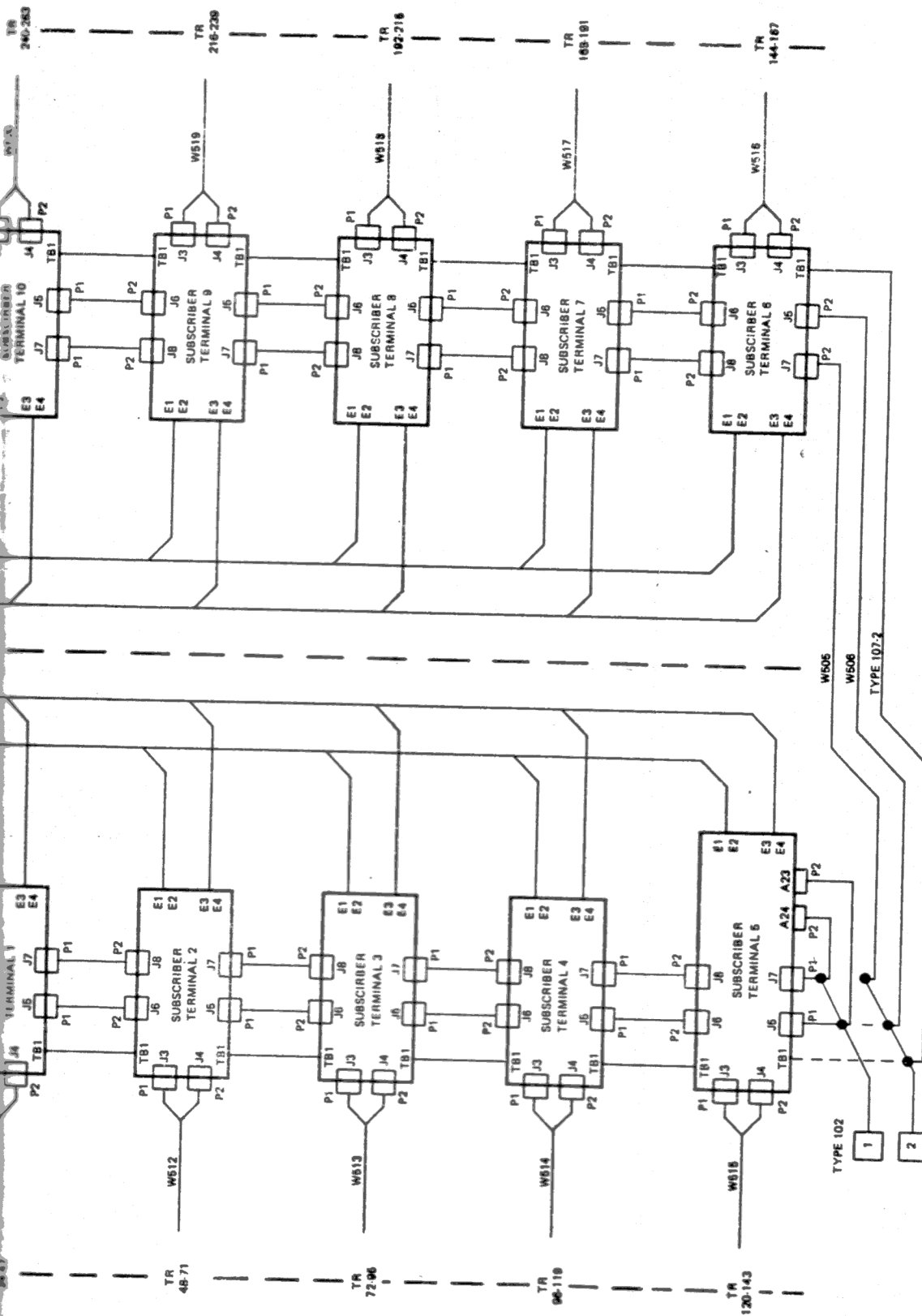
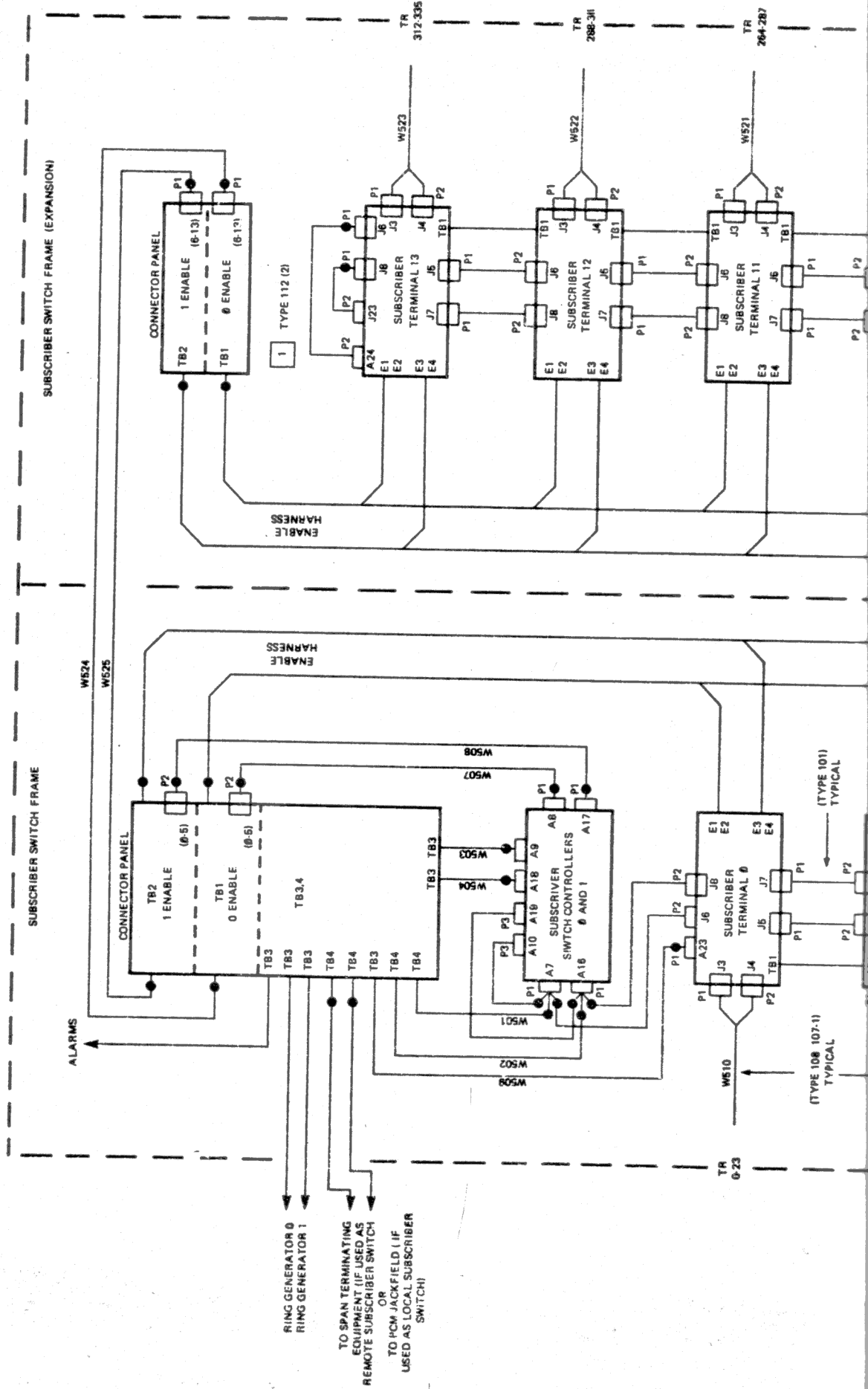


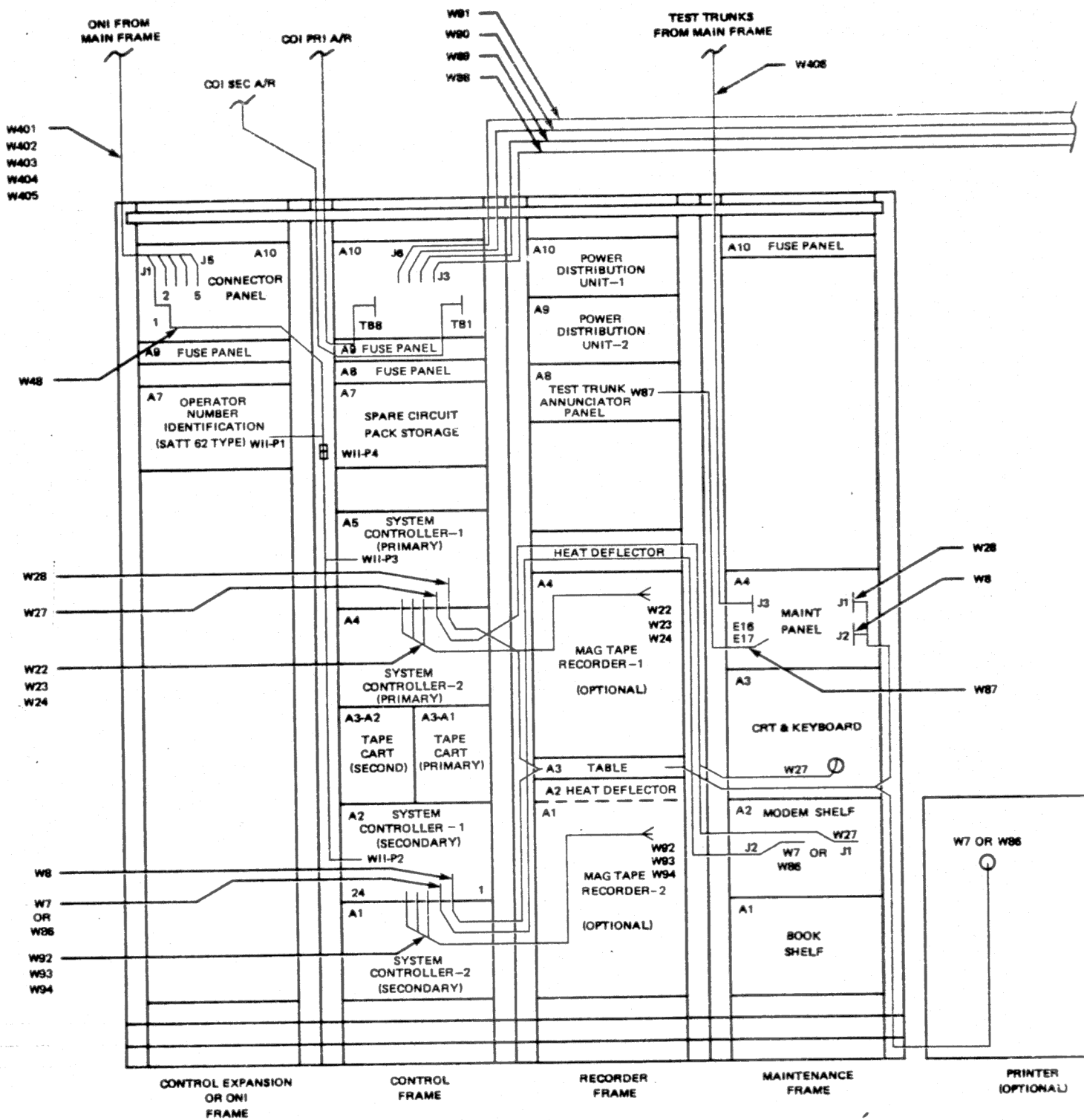
Figure FO-1 Intrasystem Cable Diagram, Base Switch, 2-Line Group, 8-Footer Frames

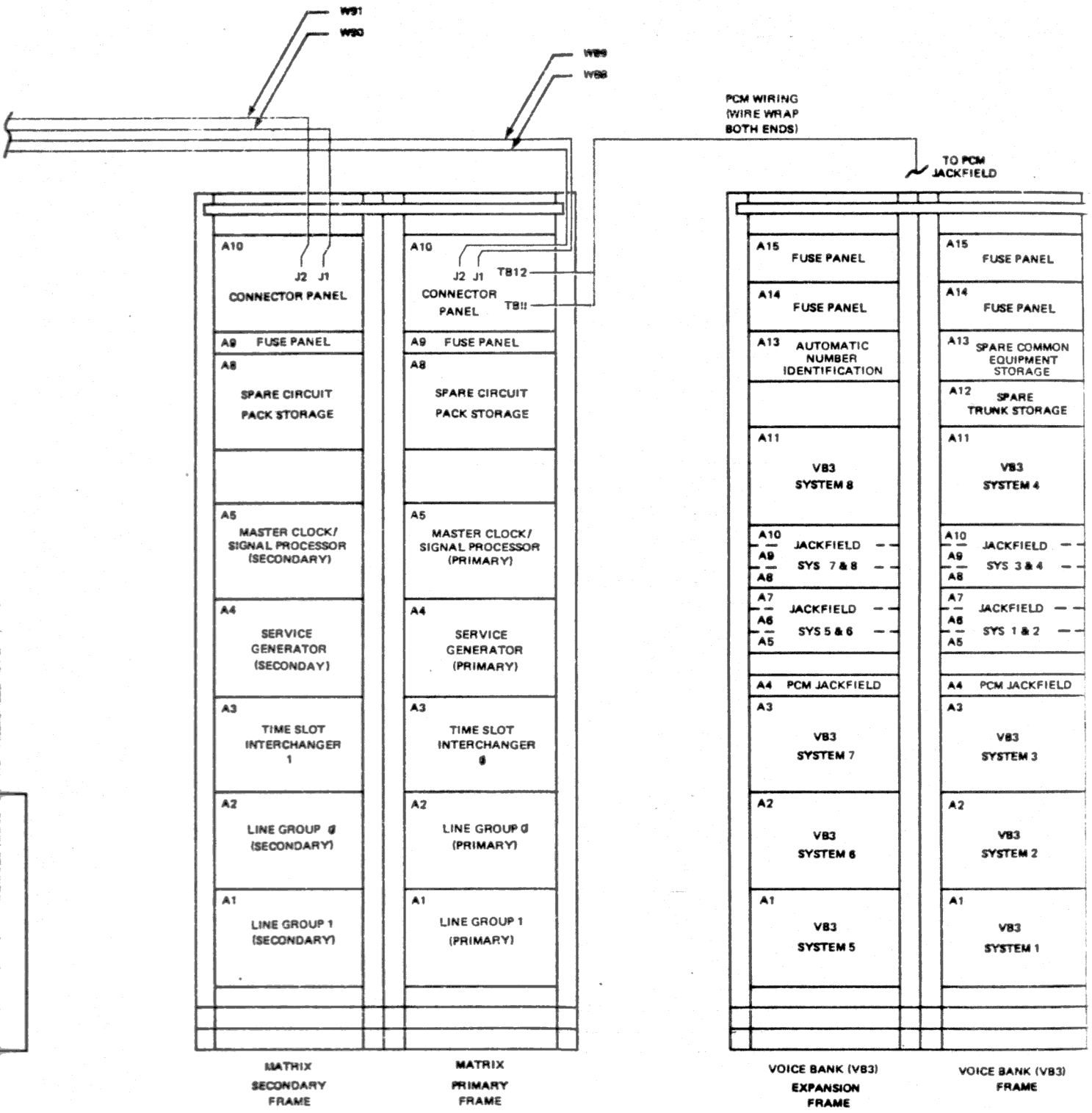


- NOTES
- 1 WHEN SUBSCRIBER TERMINAL (ST) SHELF EXPANSION IS LIMITED TO RACK 1, INSTALL BUS TERMINATOR CABLES TYPE 102 ON LAST ST SHELF IN RACK 1. IF ST SHELF EXPANSION TO RACK 2 IS REQUIRED, INSTALL BUS TERMINATOR CABLES TYPE 112 ON LAST ST SHELF IN RACK 2.
 - 2 CABLES W505, W506 AND 107-2 ARE USED ONLY IF ST SHELF EXPANSION TO RACK 2 IS REQUIRED.
 3. CABLE DRAIN CONNECTIONS ARE INDICATED BY BULLET MARKS (•) ON GIVEN CABLES.

Figure FO-2 Intrasystem Cable Diagram, Subscriber Switch (Remote or Local)



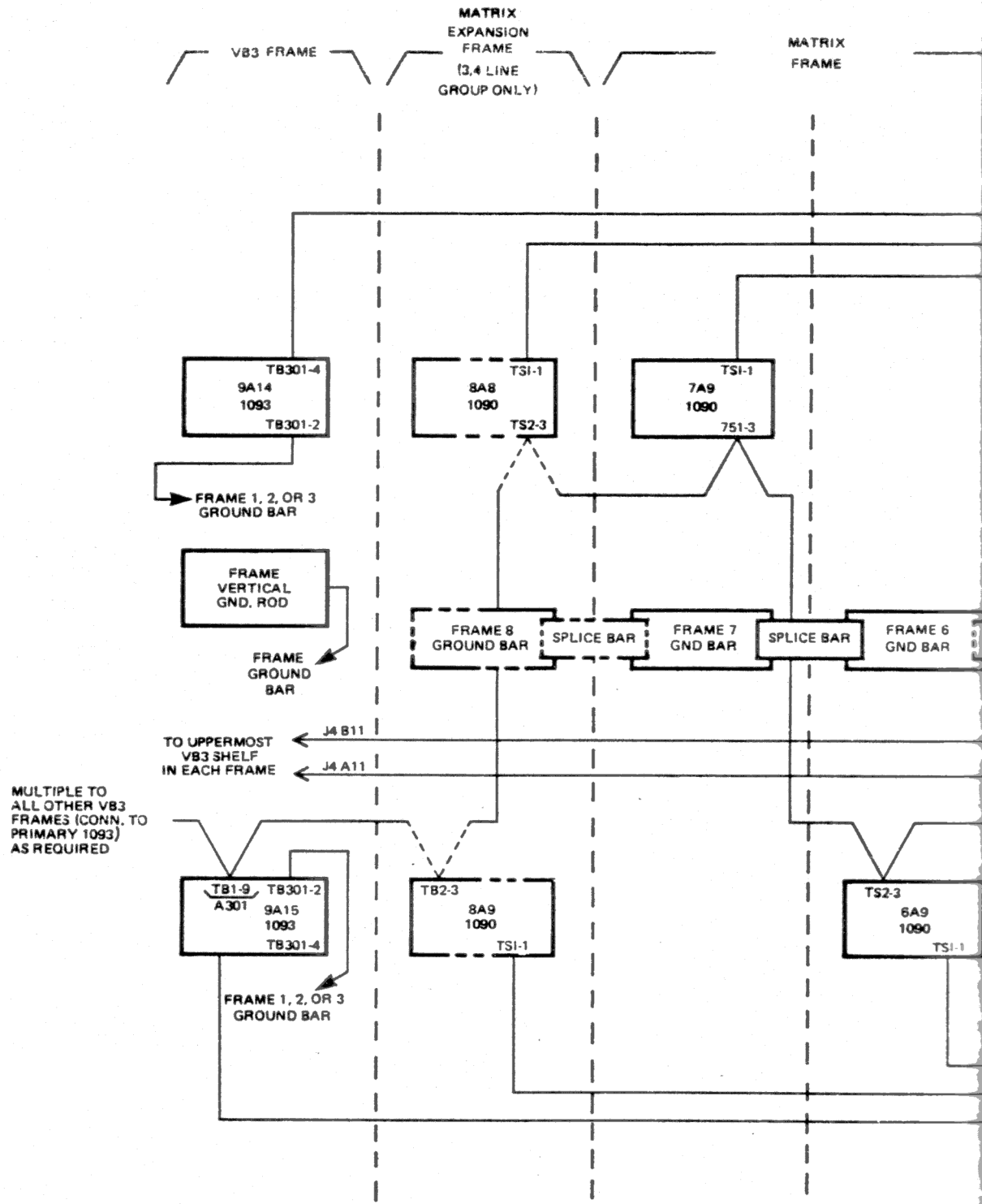




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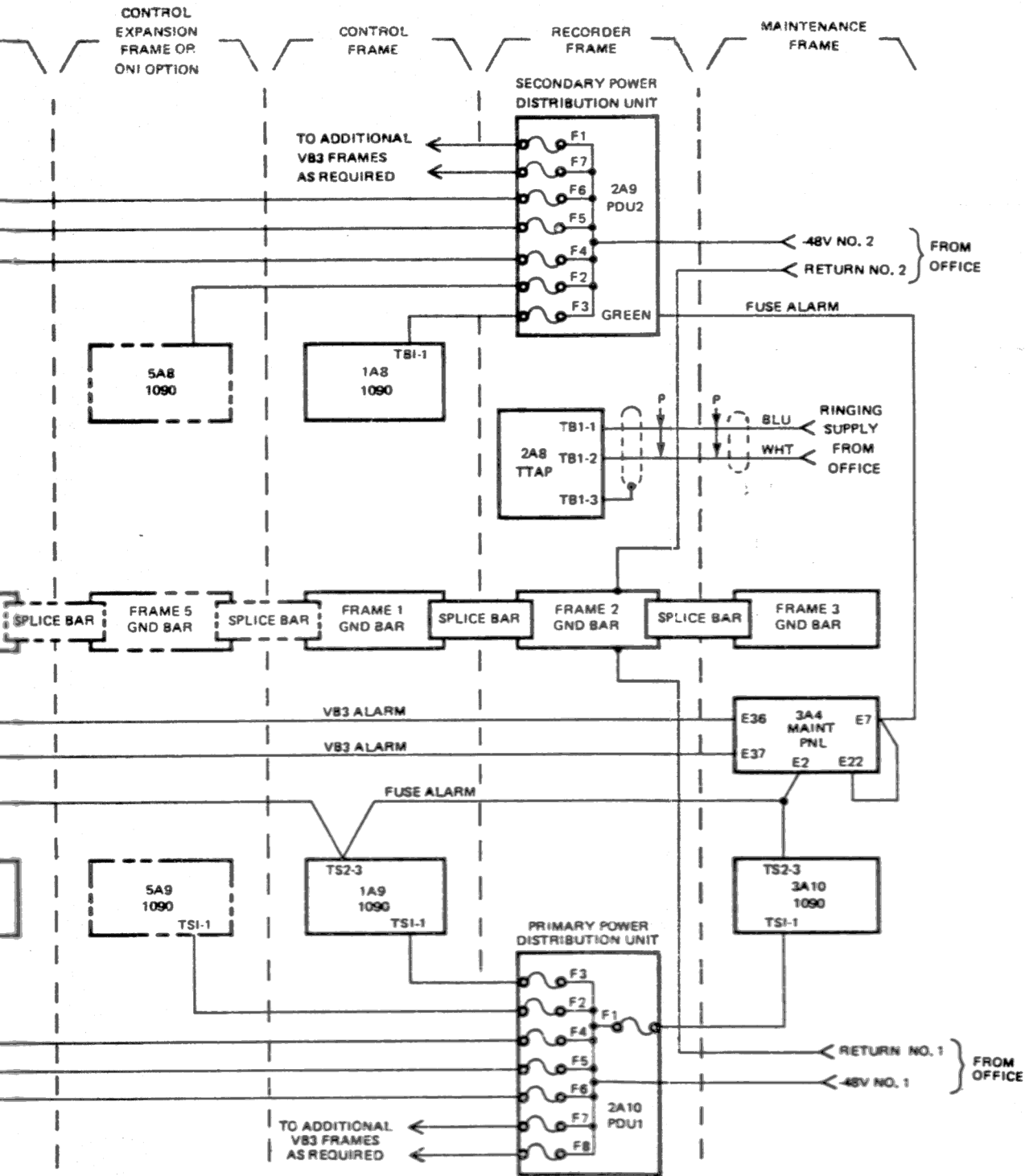
1. REFER TO INSTALLATION DRAWINGS FOR COMPLETE FIELD CABLE DATA COVERING A SPECIFIC CONFIGURATION.
2. REAR VIEW SHOWN.

Figure F0-3 Base Switch Field-Installed Cables (Rear View, Typical)



MULTIPLE TO ALL OTHER VB3 FRAMES (CONN. TO PRIMARY 1093) AS REQUIRED

NOTE



1. ALL PDU FUSES ARE 20 AMPERES.
2. REFER TO INSTALLATION DRAWINGS FOR COMPLETE FIELD CABLE DATA COVERING YOUR CONFIGURATION.
3. FUSE PANELS ARE VIDAR TYPE 1090 AND 1093.

(993 B)

Figure FO-4 Power and Alarm Wiring Diagram, Field-Installed (Typical)