Task Oriented Practice
(TOP)

4ESS™ SWITCH
PHASED ANNOUNCEMENT SYSTEM
OPERATING AND TROUBLE CLEARING PROCEDURES

Developed by
Customer Information Development and Business Translations Organization

Issue 2	JAN 1994
234-151-060	TPG
TITLE PAGE	000

FIND YOUR JOB IN THE LIST BELOW	THEN GO TO
Acceptance	NTP-002
Alarm; At Control Unit, **FUSE** LED Indicator Lighted and One or More Power (**+5**, **–5**, **+12**, **–12**) LED Indicators Extinguished – Clear	TAP-104
Alarm; At Control Unit, **FUSE** LED Indicator Lighted and **FUSE ALARM** Indicator Lighted on Playback Module – Clear	TAP-102
Alarm; At Control Unit, **FUSE** LED Indicator Lighted and **FUSE ALARM** Indicator Lighted on Record Module – Clear	TAP-101
Alarm Circuits – Test	DLP-515
Alarm; Fuse – Control Unit – Clear	TAP-103
Alarm; Fuse – Playback Module – Clear	TAP-102
Alarm; Fuse – Record Module – Clear	TAP-101
Alarm; Low Voltage – Clear	TAP-104
Alarm; Voice – Clear	TAP-105
Announcement – From Record Module to Playback Module – Transfer	DLP-508
Announcement at Dedicated Telephone – Record	NTP-005
Announcement at Frame With Headset/Handset – Record	NTP-004
Announcement Via Prerecorded Cassette Tapes – Record	NTP-003
Audio Output – Check	DLP-514
CALL DIRECTOR Set – Monitoring	DLP-503
CALL DIRECTOR Set – Announcement at – Record	NTP-005
Cassette Recorder Tape Speed – Calibrate	DLP-500
Cassette Tapes; Prerecorded – Announcement – Record	NTP-003
Clock Failure – Clear	TAP-106
Control Unit – Replace	DLP-512

FIND YOUR JOB IN THE LIST BELOW	THEN GO TO
Control Unit Fuse Alarm — Clear	TAP-103
Dedicated Telephone — Monitoring	DLP-503
Dedicated Telephone; Announcement at — Record	NTP-005
Failure; Clock — Clear	TAP-106
Failure; Head Switching — Clear	TAP-107
Fault; Message — Clear	TAP-108
Frame; PAS — Monitoring	DLP-504
Frame; PAS — Power — Applying	DLP-510
Frame; PAS — Power — Removing	DLP-509
Frame; at — with Headset/Handset — Record	NTP-004
Fuse Alarm; At Control Unit, **FUSE** LED Indicator Lighted and One or More Power (**+5**, **—5**, **+12**, **—12**) LED Indicators Extinguished — Clear	TAP-104
Fuse Alarm; At Control Unit, **FUSE** LED Indicator Lighted and **FUSE ALARM** LED Indicator Lighted on Playback Module — Clear	TAP-102
Fuse Alarm; At Control Unit, **FUSE** LED Indicator Lighted and **FUSE ALARM** LED Indicator Lighted on Record Module — Clear	TAP-101
Fuse Alarm — Control Unit — Clear	TAP-103
Fuse Alarm — Playback Module — Clear	TAP-102
Fuse Alarm — Record Module — Clear	TAP-101
Head Switching Failure — Clear	TAP-107
Headset/Handset; with — Announcement at Frame — Record	NTP-004
Low Voltage Alarm — Clear	TAP-104

FIND YOUR JOB IN THE LIST BELOW	THEN GO TO
Maintenance Philosophy	TAD-100
Message Fault — Clear	TAP-108
Monitor Module — Replace	DLP-511
Noise/Voice Quality Trouble — Clear	TAP-109
PAS Frame; At — Monitoring	DLP-504
PS1110A Power Supply — Replace	DLP-513
Playback Module — Replace	DLP-511
Playback Module Fuse Alarm — Clear	TAP-102
Playback Module Output — Calibrate	DLP-502
Power — PAS Frame — Applying	DLP-510
Power — PAS Frame — Removing	DLP-509
Power Supply; PS1110A — Replace	DLP-513
Record Level — Adjust	DLP-501
Record Module — Replace	DLP-511
Record Module Fuse Alarm — Clear	TAP-101
Recorded Announcement — At Dedicated Telephone — Perform	NTP-005
Recorded Announcement — At PAS Frame With Headset/Handset — Perform	NTP-004
Recorded Announcement — Via Prerecorded Cassette Tapes — Perform	NTP-003
Recorded Announcement — From Record Module to Playback Module — Transfer	DLP-508
Tape Speed — Cassette Recorder — Calibrate	DLP-500
Trouble: Noise/Voice Quality — Clear	TAP-109
TTY Printout — REPT:TROUBLE RA CLOCK FAILURE FLN c	TAP-106

FIND YOUR JOB IN THE LIST BELOW	THEN GO TO
TTY Printout — REPT:TROUBLE RA a RACHAN b HEAD SWITCHING FAILURE FLN c	TAP-107
TTY Printout — REPT:TROUBLE RA a RACHAN b VOICE ALARM FLN c	TAP-105
Voice Alarm — Clear	TAP-105
Voice Alarm Circuit — Test	DLP-515
Voice Quality/Noise Trouble — Clear	TAP-109

No acceptance test procedures are required for this frame.
The readiness of this frame to become a part of the
working system was established by the successful
completion of Installation Handbook test procedures.

ACCEPTANCE

DO THE ITEMS BELOW IN THE ORDER LISTED		FOR DETAILS, GO TO
1	Obtain Following Equipment: • 3551A TMS or Equivalent • Sony Model TCM-5000 Cassette Recorder or Equivalent • Prerecorded Cassette Tapes • KS-22566 Interface Unit • Headset or Handset	
2	Adjust Record Module (CP102) Record Level, As Required	DLP-501
3	Calibrate Playback Module (CP101) Output, As Required	DLP-502
4	Calibrate Cassette Recorder Tape Speed, As Required	DLP-500
5	Perform Message Recording at PAS Frame	DLP-505
6	Transfer Announcement to Playback Module	DLP-508
7	Monitor Announcement	DLP-504

DO THE ITEMS BELOW IN THE ORDER LISTED		FOR DETAILS, GO TO
1	Obtain Following Equipment: • 3551A TMS or Equivalent • Headset or Handset	
2	Adjust Record Module (CP102) Record Level, As Required	DLP-501
3	Calibrate Playback Module (CP101) Output, As Required	DLP-502
4	Perform Message Recording With Headset/Handset	DLP-506
5	Transfer Announcement to Playback Module	DLP-508
6	Monitor Announcement	DLP-504

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO		
1	Obtain Following Equipment: • 3551A TMS or Equivalent	
2	Adjust Record Module (CP102) Record Level, As Required	DLP-501
3	Calibrate Playback Module (CP101) Output, As Required	DLP-502
4	Perform Message Recording at Dedicated Telephone	DLP-507

GENERAL

The maintenance philosophy contained in this volume is based upon the design of equipment (hardware), diagnostic software, and test equipment employed. Procedures provided are intended to aid personnel in performing trouble-clearing tasks. The degree to which these procedures accomplish this depends upon input and feedback from the user. Additions, corrections, and improvements to the data are encouraged. Manufacturer, engineering, and software documentation such as NS, I/O Manuals, PKs, PRs, etc, are referred to where applicable rather than duplicating that information in the TOP. Some portions of those documents may be utilized in procedures but only as examples for purposes of explanation. Test equipment (transmission measuring sets, frequency counters, voltmeters, etc) and the parameters involved in the circuits being tested, adjusted, or checked are usually prescribed. The setup and method of use is not described unless it is unusual or unique. Procedures unique to a particular modification of the frame are identified by that frame's NS number. If not so identified, the procedure would apply to all modifications. When documenting a procedural approach to trouble clearing, certain assumptions are made. It is assumed that one fault is being cleared at a time. When directing the user to perform an action, it is assumed that action is executed correctly. Similarly, when directed to make replacements, the replacement part is always assumed to be good; and equipment used for testing, built-in (hardware and software) and commercial, are assumed to be good.

IXL PHILOSOPHY

The IXL is structured to provide fast access for the user to those procedures pertinent to the symptoms identified. Within the IXL, data is accessed via automatic devices (power alarms and blown fuses), TTY Printouts (REPT: messages), and other definable stimulus power problems are sensed by scan points which generate an alarm. It is assumed that the user following the aisle pilot lights can locate the frame with the power fault which is automatically powered down (**FUSE** LED indicator lighted) or by reading **REPT:RA PA** printout which would identify the frame with power fault. The precise structure of the message is given in the input/output (I/O) message manuals. Symptoms described in the IXL reflect the assumptions previously mentioned and indicate other conditions that are observable at the frame that would enable the user to access the proper trouble-clearing procedure. These conditions are blown fuses and lighted LED indicators on the control unit, playback module, and record module. In general, most circuit failures are detected by scan point monitoring circuits which generate one of the TTY messages shown in the IXL.

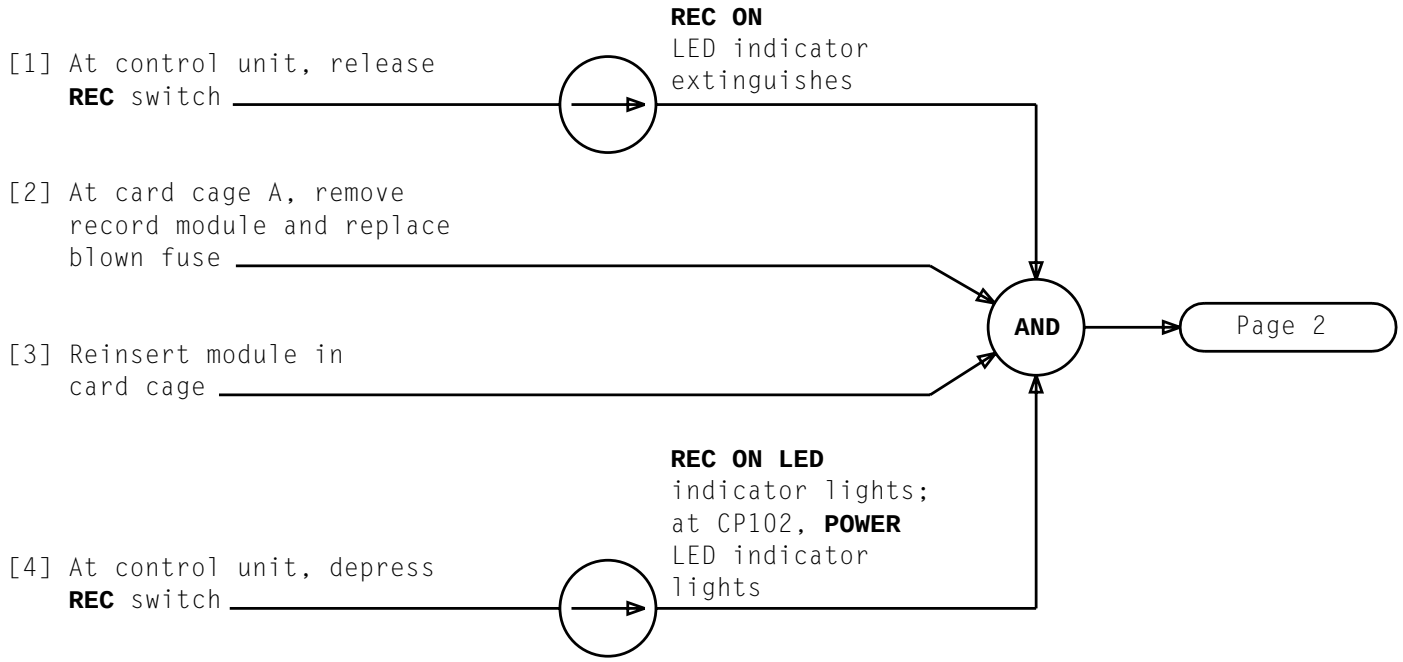
ALTERNATE METHODS

The more knowledgable and experienced personnel may access the TOP documents at a point in trouble clearing where analyzation is completed (the faulty component determined) and only repair or replacement is required. In many instances, access to these procedures may be obtained by locating procedural data (NTP/DLP) through the Index [IXL-001]. Most DLPs are built to support TAPs and NTPs with preconditioning and system restoration steps covered in those level procedures (TAPs, NTPs). Therefore, access to data (DLPs) on a hunt-and-find basis is a threat to equipment operation and may compound trouble-clearing problems.

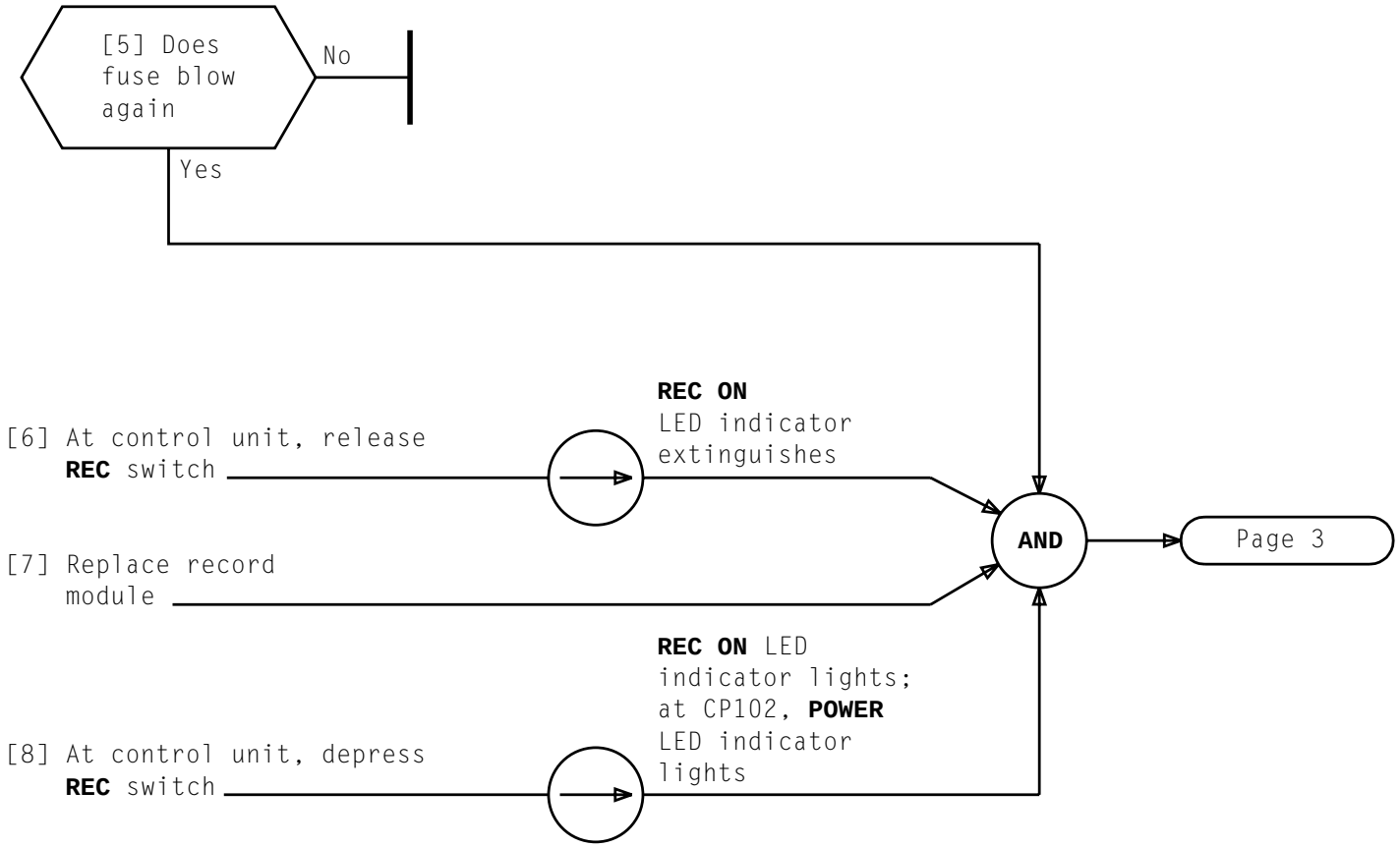
EQUIPMENT TEST LIST

This is a list of tasks recommended for preventive maintenance. Tasks are arranged by the frequency of the maintenance beginning with the shortest interval.

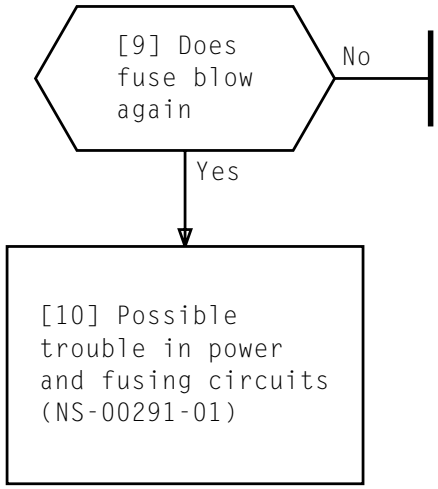
FREQUENCY	TASK	PROCEDURE
Daily	Check Recorded Announcements	DLP-514
Yearly	Test Voice Alarm Circuits	DLP-515



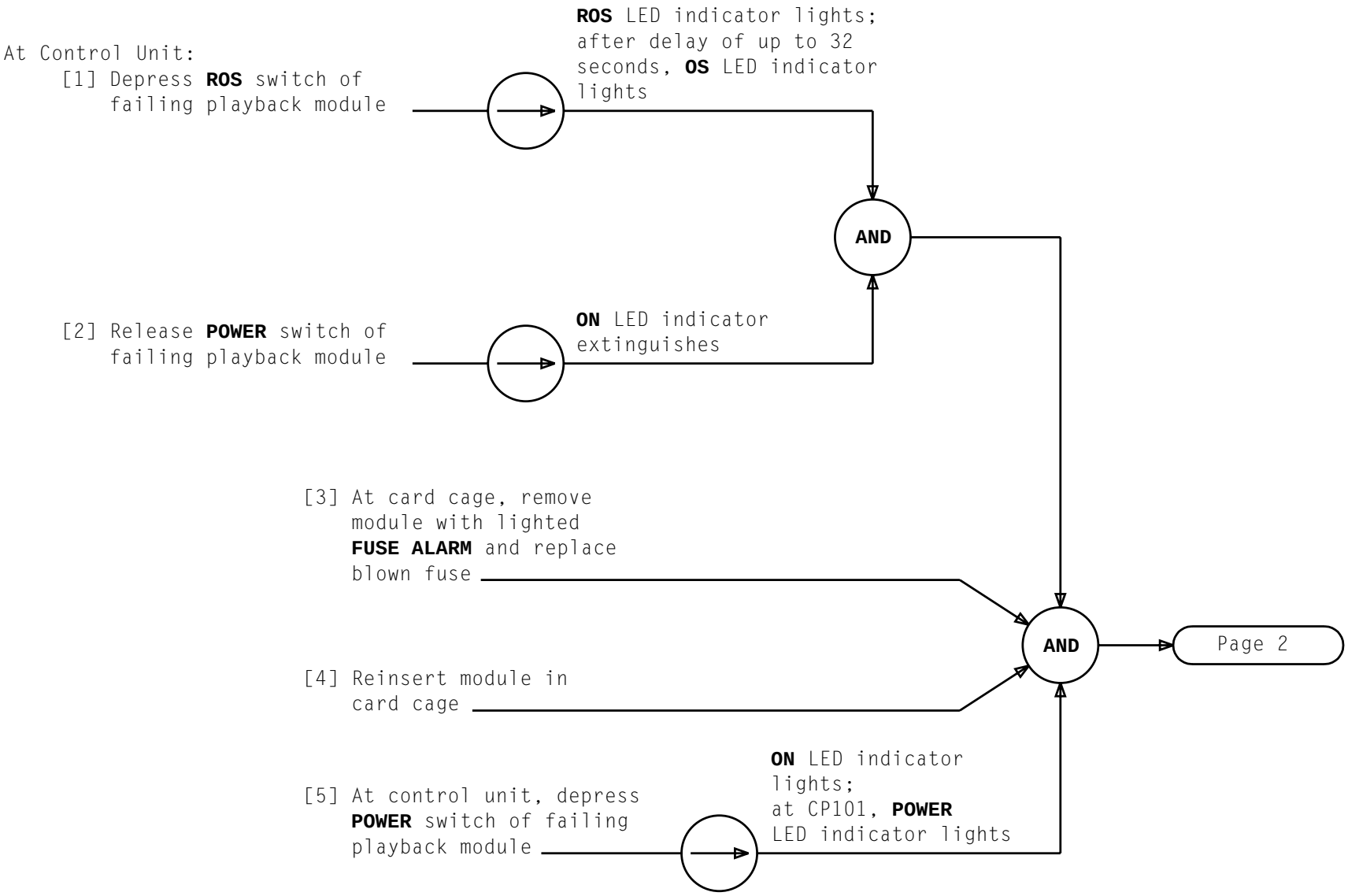
CLEAR RECORD MODULE FUSE ALARM



CLEAR RECORD MODULE FUSE ALARM



CLEAR RECORD MODULE FUSE ALARM



CLEAR PLAYBACK MODULE FUSE ALARM

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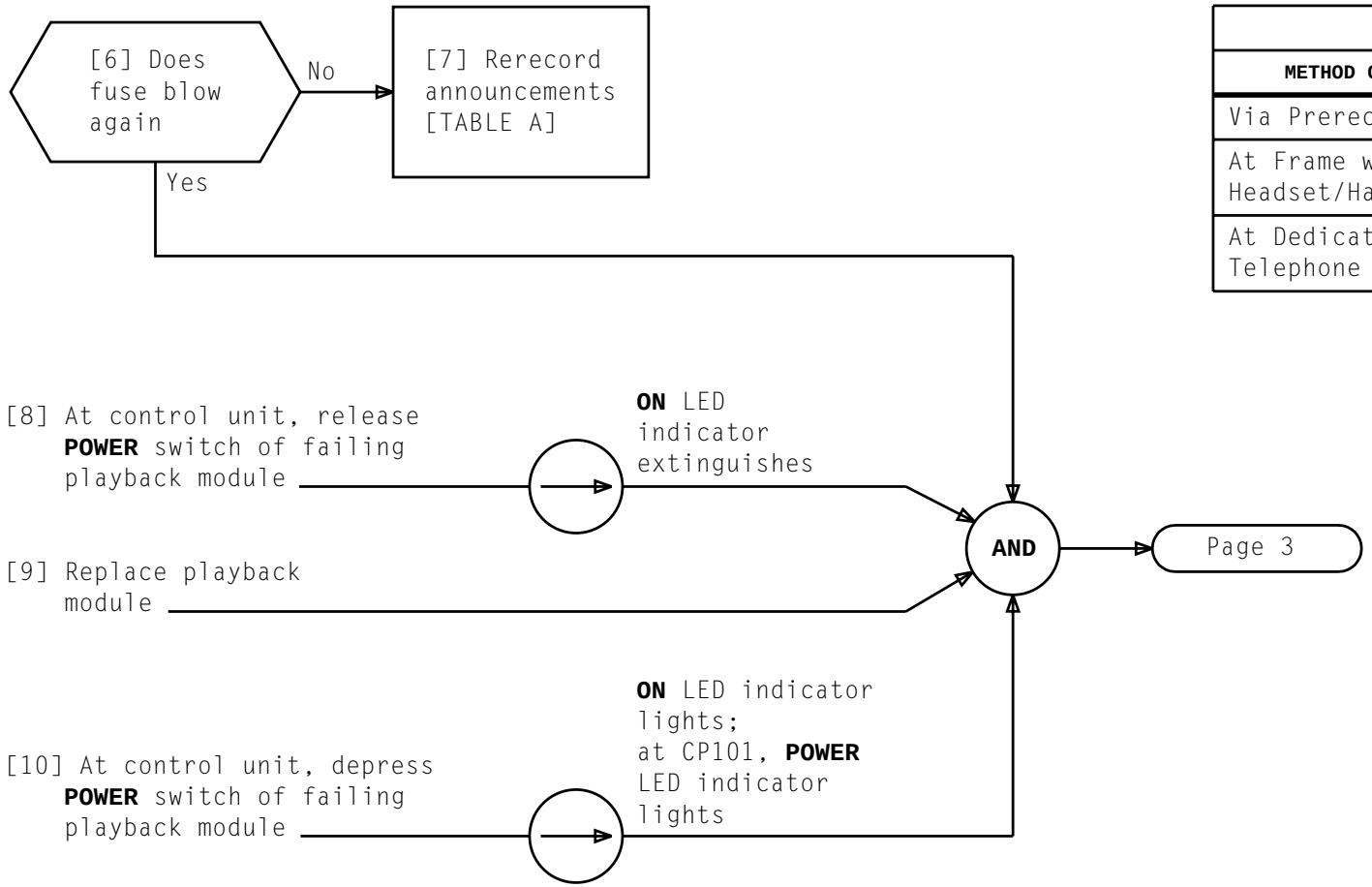
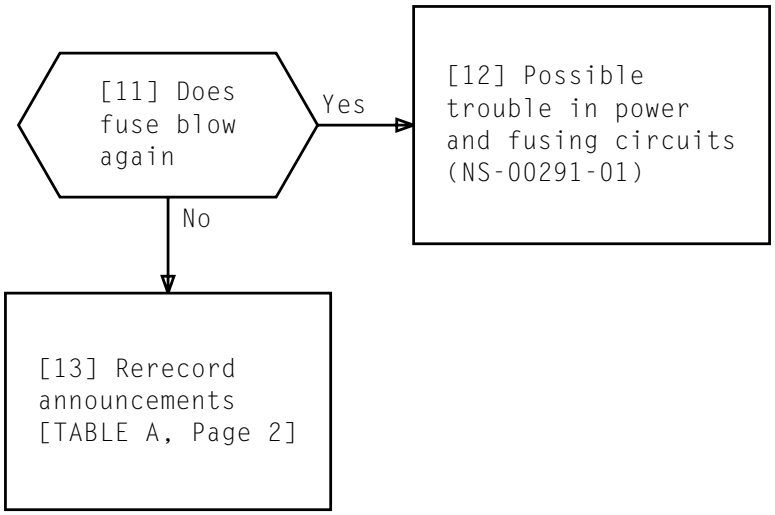


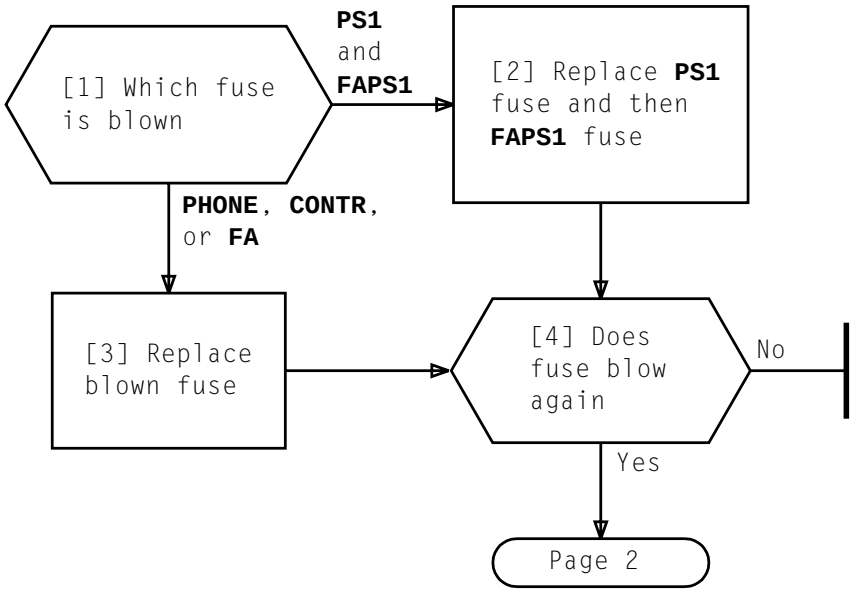
TABLE A

METHOD OF RECORDING	GO TO
Via Prerecorded Tapes	NTP-003
At Frame with Headset/Handset	NTP-004
At Dedicated Telephone	NTP-005

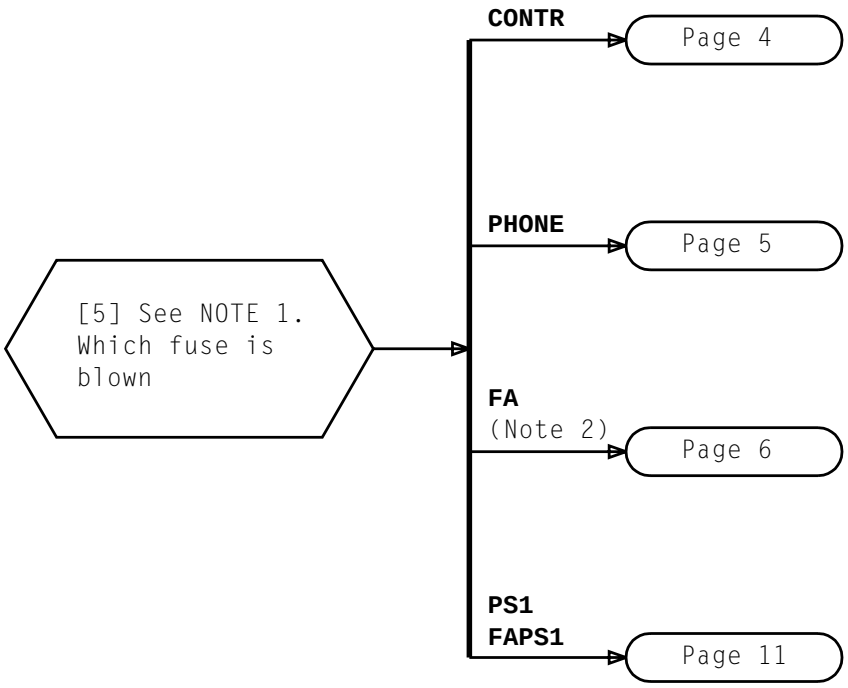
CLEAR PLAYBACK MODULE FUSE ALARM



CLEAR PLAYBACK MODULE FUSE ALARM



CLEAR CONTROL UNIT FUSE FAILURE



NOTES

1. While performing remainder of this TAP, refer to Figure 1 to help isolate trouble
2. Blown **FA** fuse does not place PAS out of service. However, following procedure for locating trouble in **FA** circuitry interrupts service and should be performed during periods of low traffic.

CLEAR CONTROL UNIT FUSE FAILURE

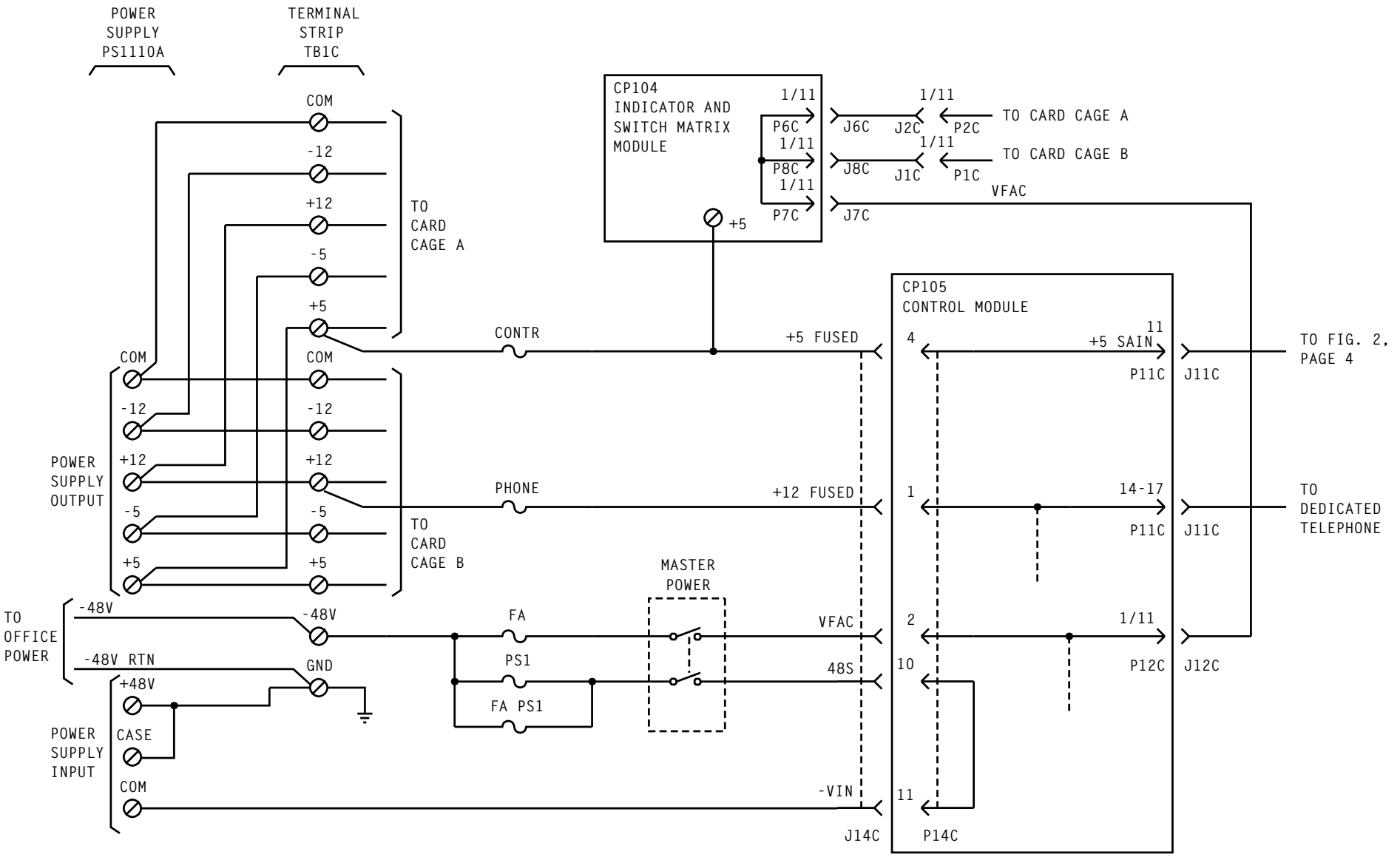
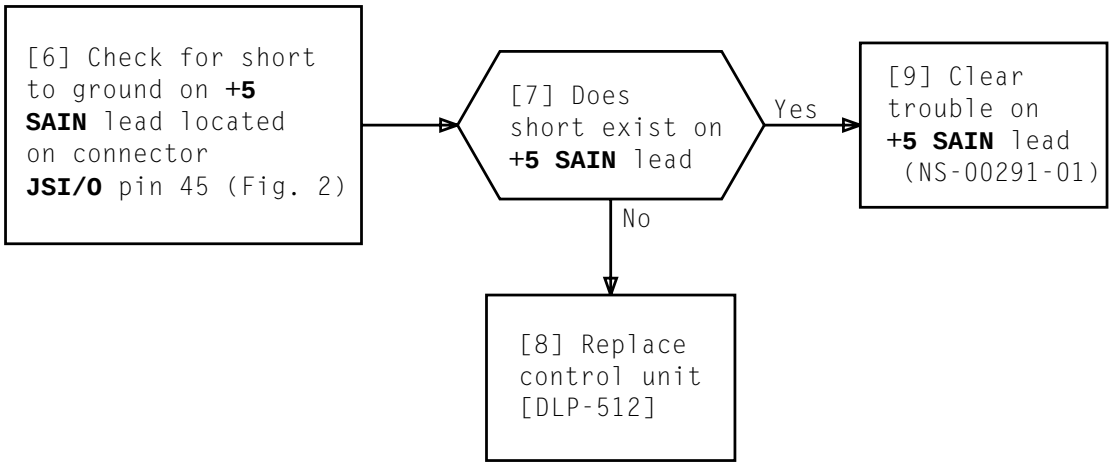


Figure 1 — Control Unit Power Distribution — Simplified Diagram

CLEAR CONTROL UNIT FUSE FAILURE



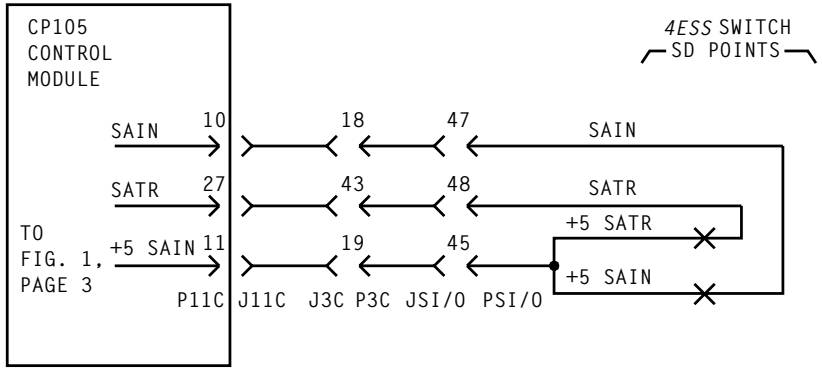
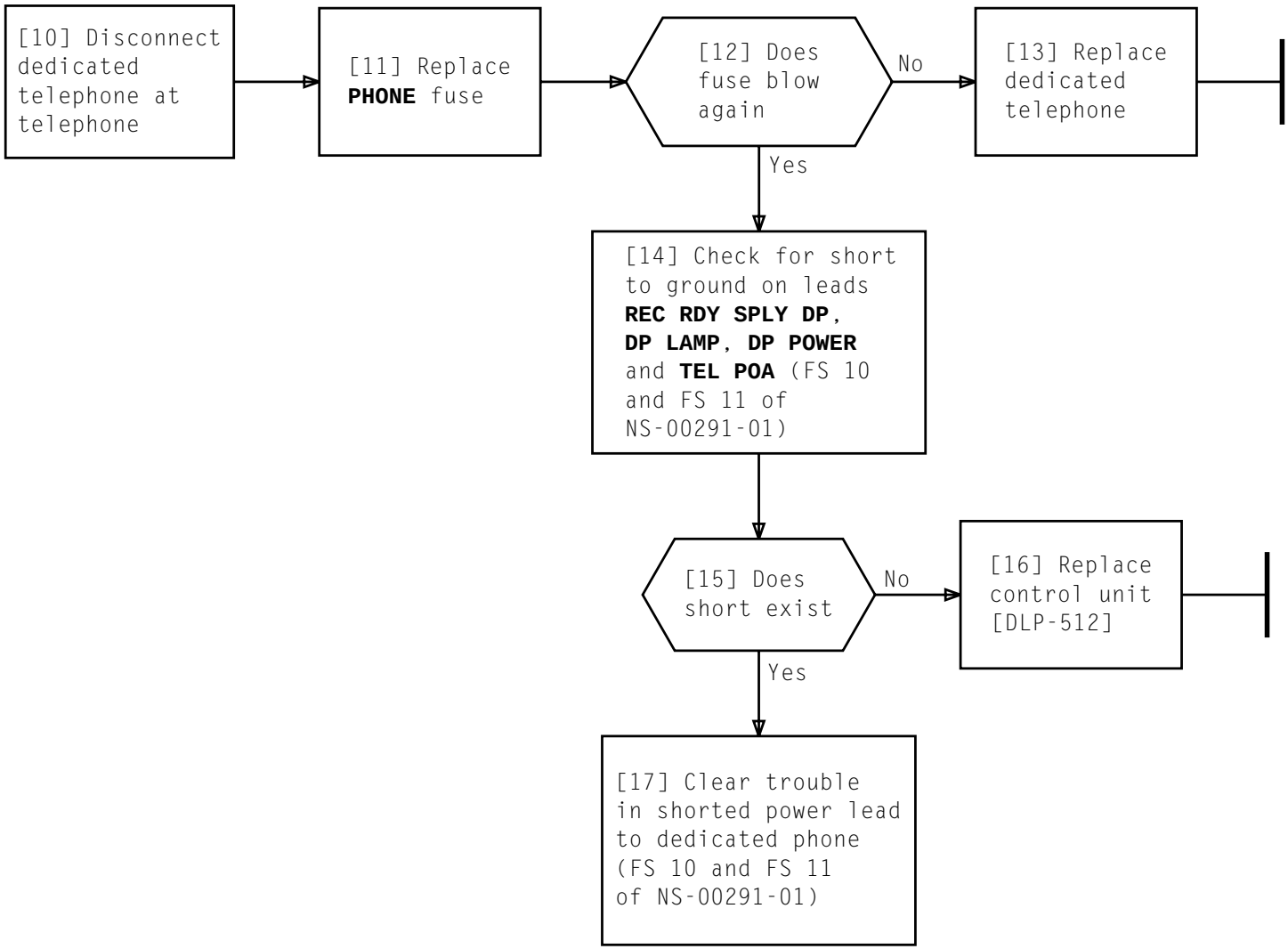
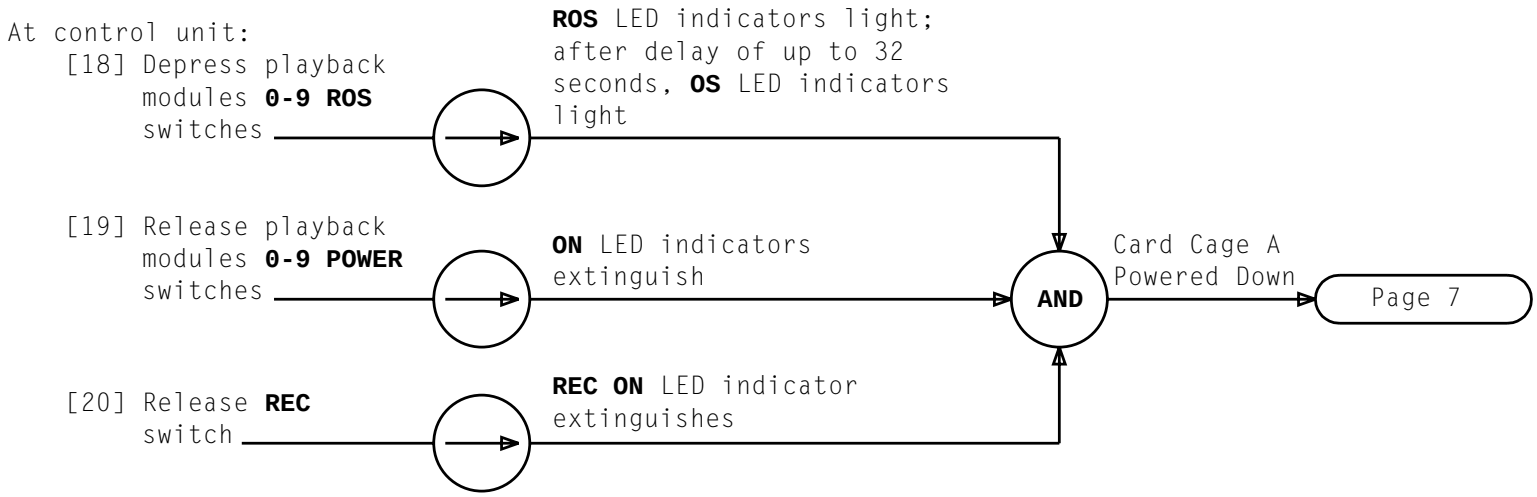


Figure 2 – +5 Fused (+5 SAIN) Distribution

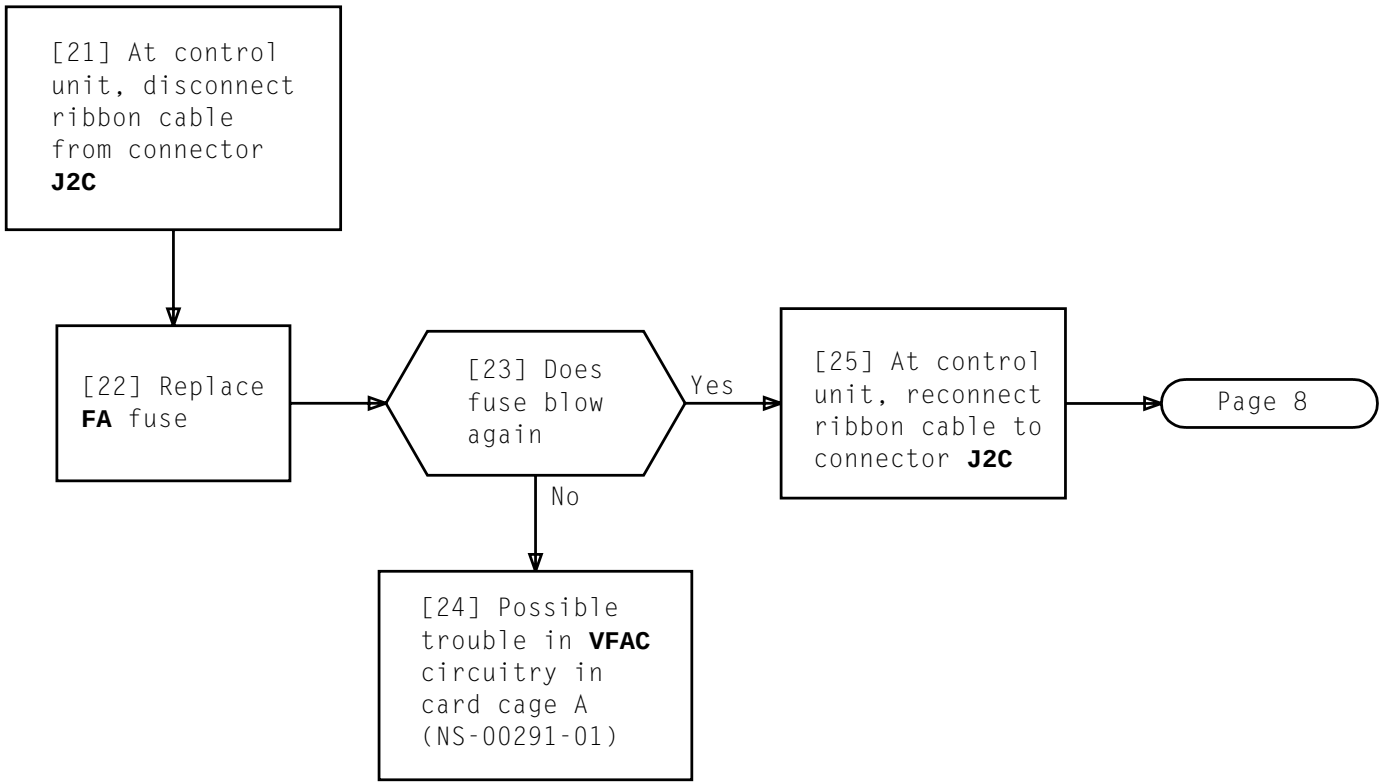
CLEAR CONTROL UNIT FUSE FAILURE



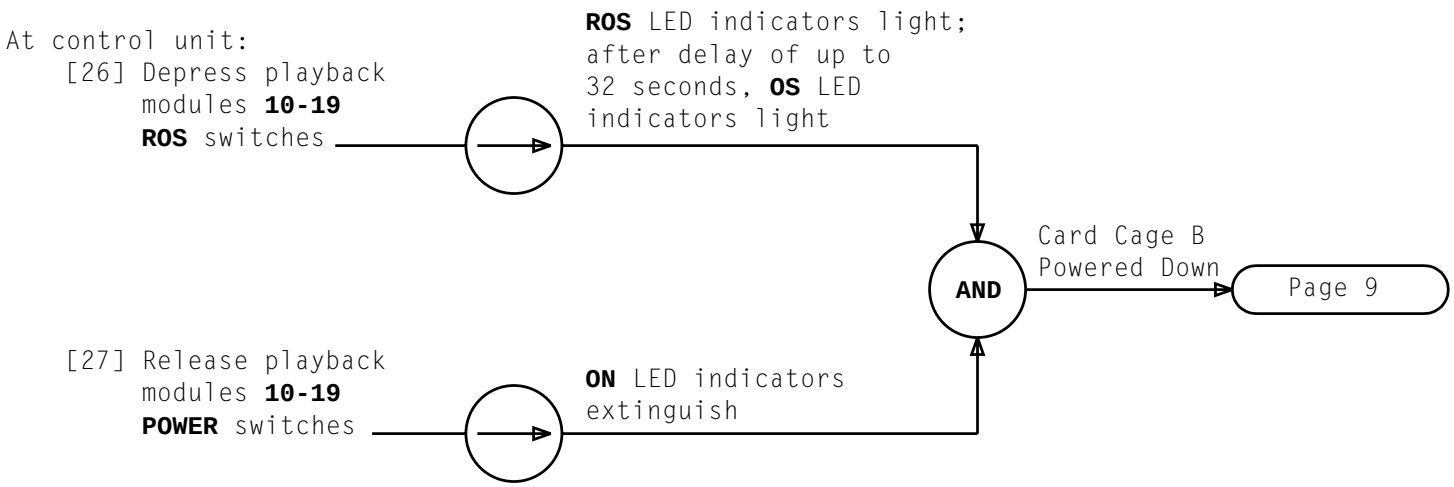
CLEAR CONTROL UNIT FUSE FAILURE



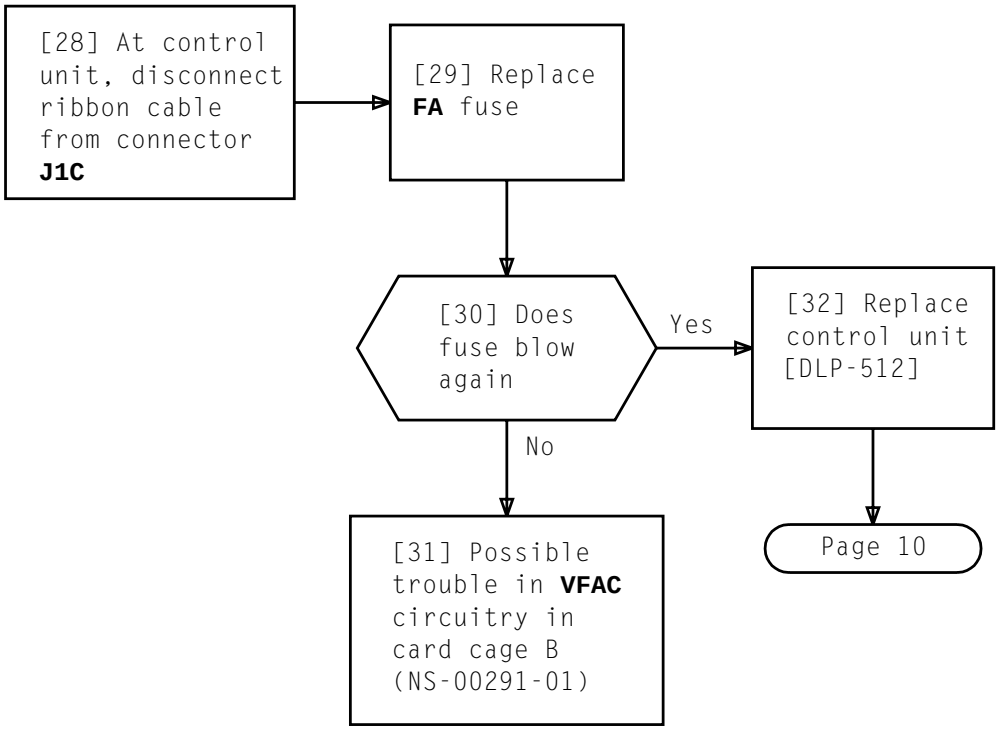
CLEAR CONTROL UNIT FUSE FAILURE



CLEAR CONTROL UNIT FUSE FAILURE



CLEAR CONTROL UNIT FUSE FAILURE



CLEAR CONTROL UNIT FUSE FAILURE

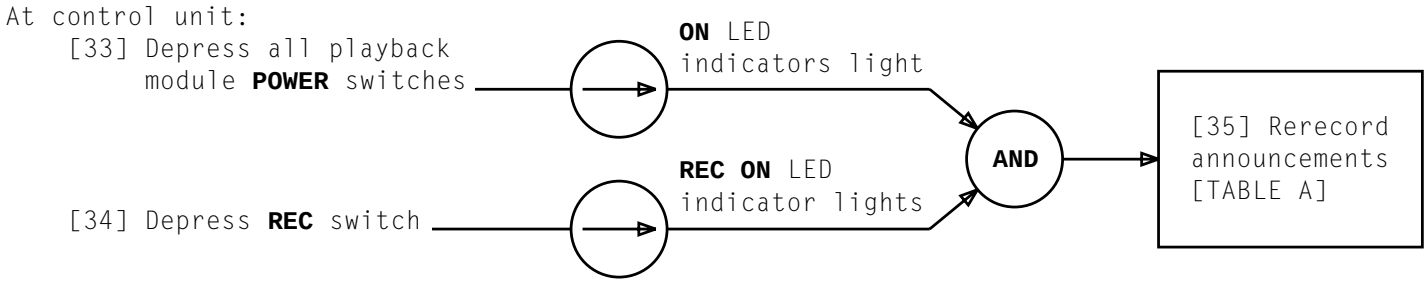
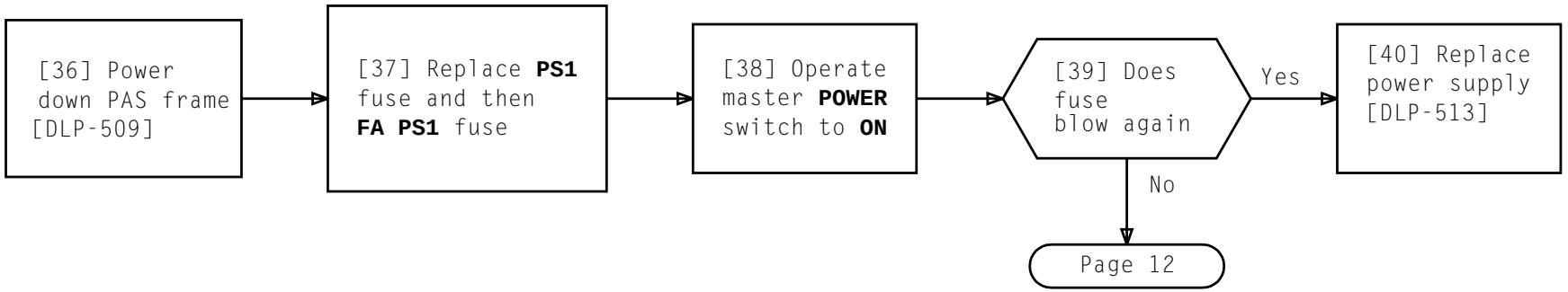


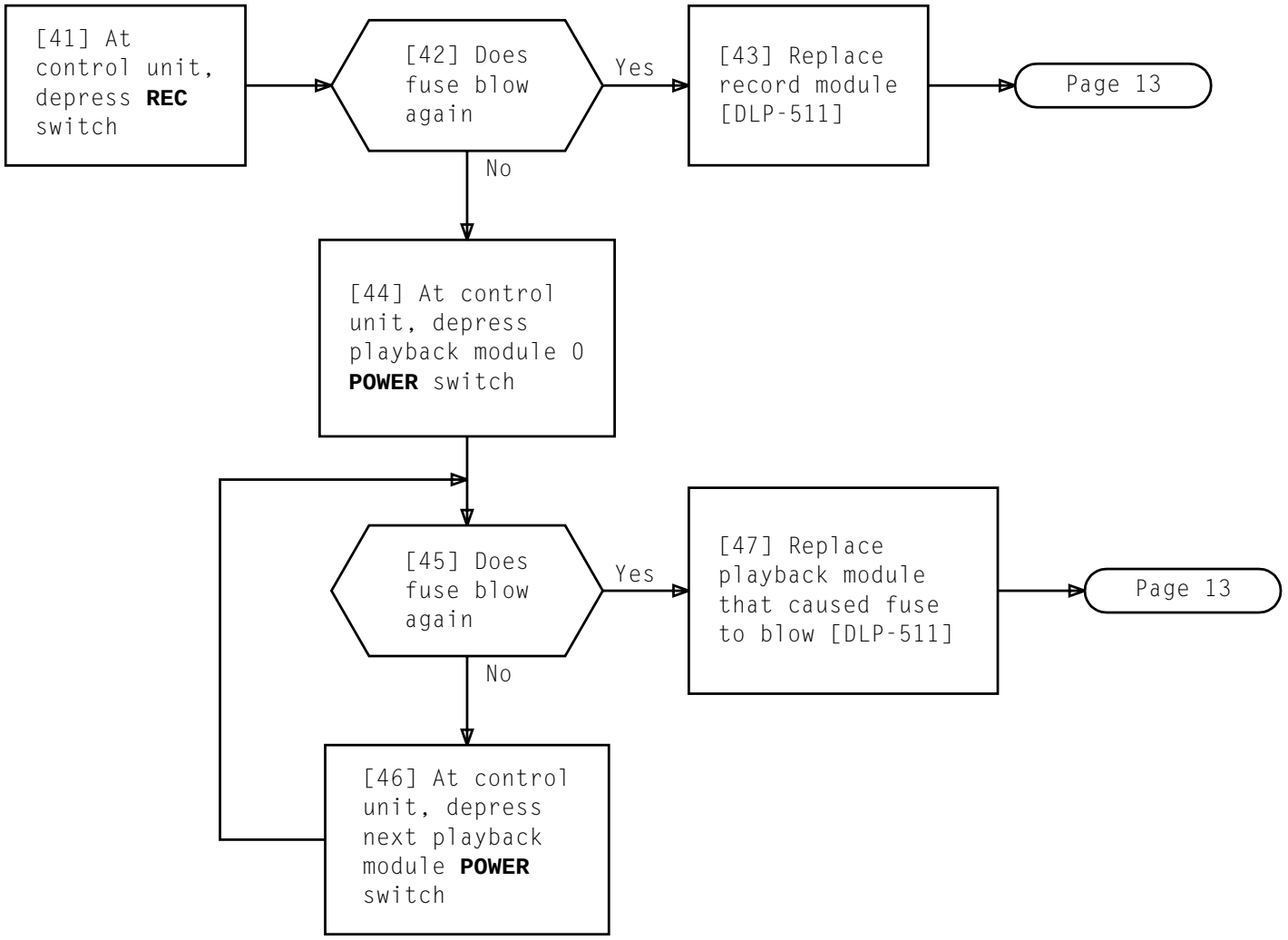
TABLE A

METHOD OF RECORDING	GO TO
Via Prerecorded Tapes	NTP-003
At Frame with Headset/Handset	NTP-004
At Dedicated Telephone	NTP-005

CLEAR CONTROL UNIT FUSE FAILURE



CLEAR CONTROL UNIT FUSE FAILURE



CLEAR CONTROL UNIT FUSE FAILURE

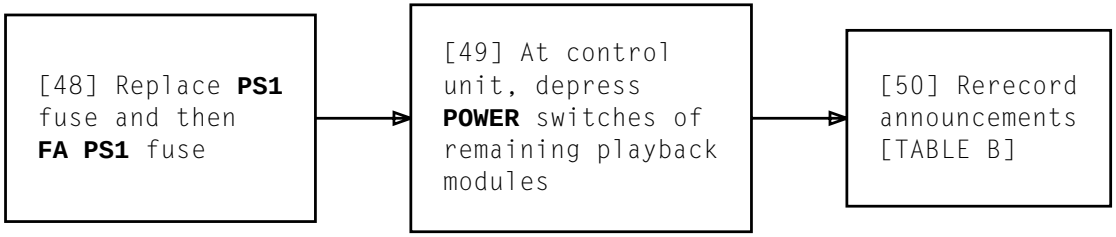
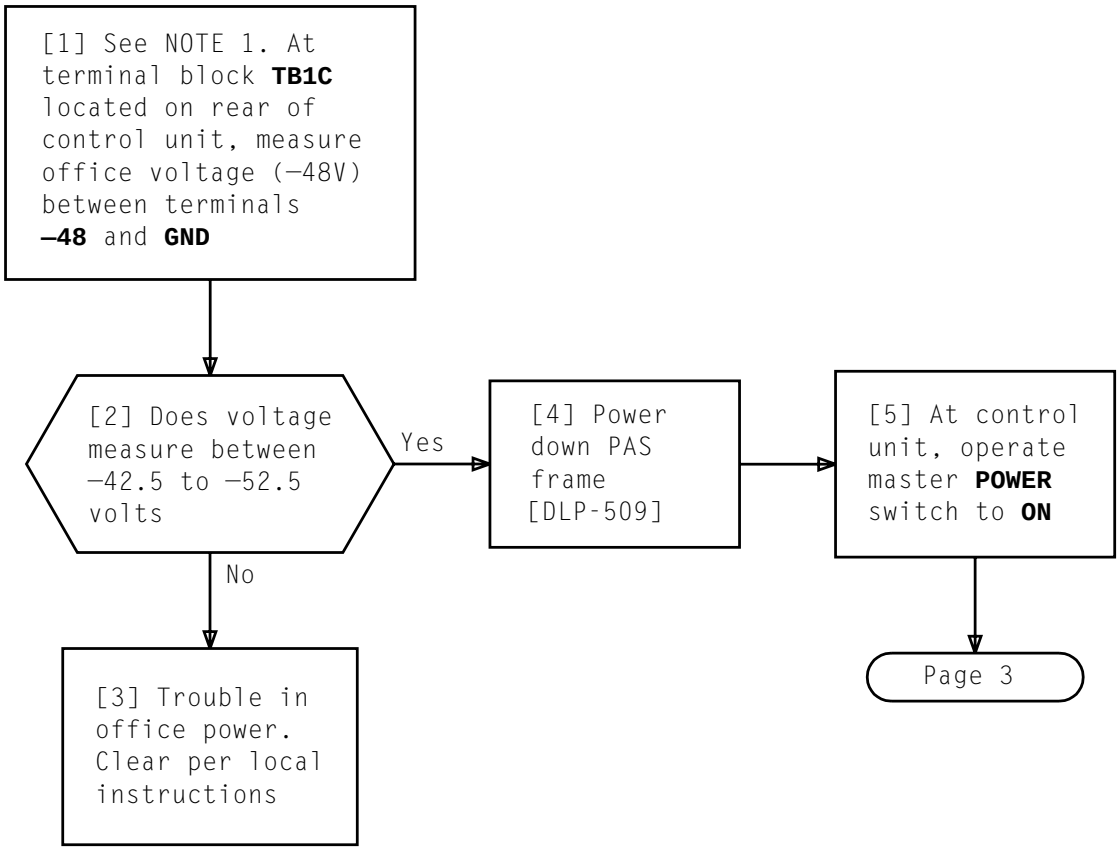


TABLE B

METHOD OF RECORDING	GO TO
Via Prerecorded Tapes	NTP-003
At Frame With Headset/Handset	NTP-004
At Dedicated Telephone	NTP-005

CLEAR CONTROL UNIT FUSE FAILURE



CLEAR LOW VOLTAGE ALARM

NOTE 1
Figure 1 should be referred to when performing this TAP.

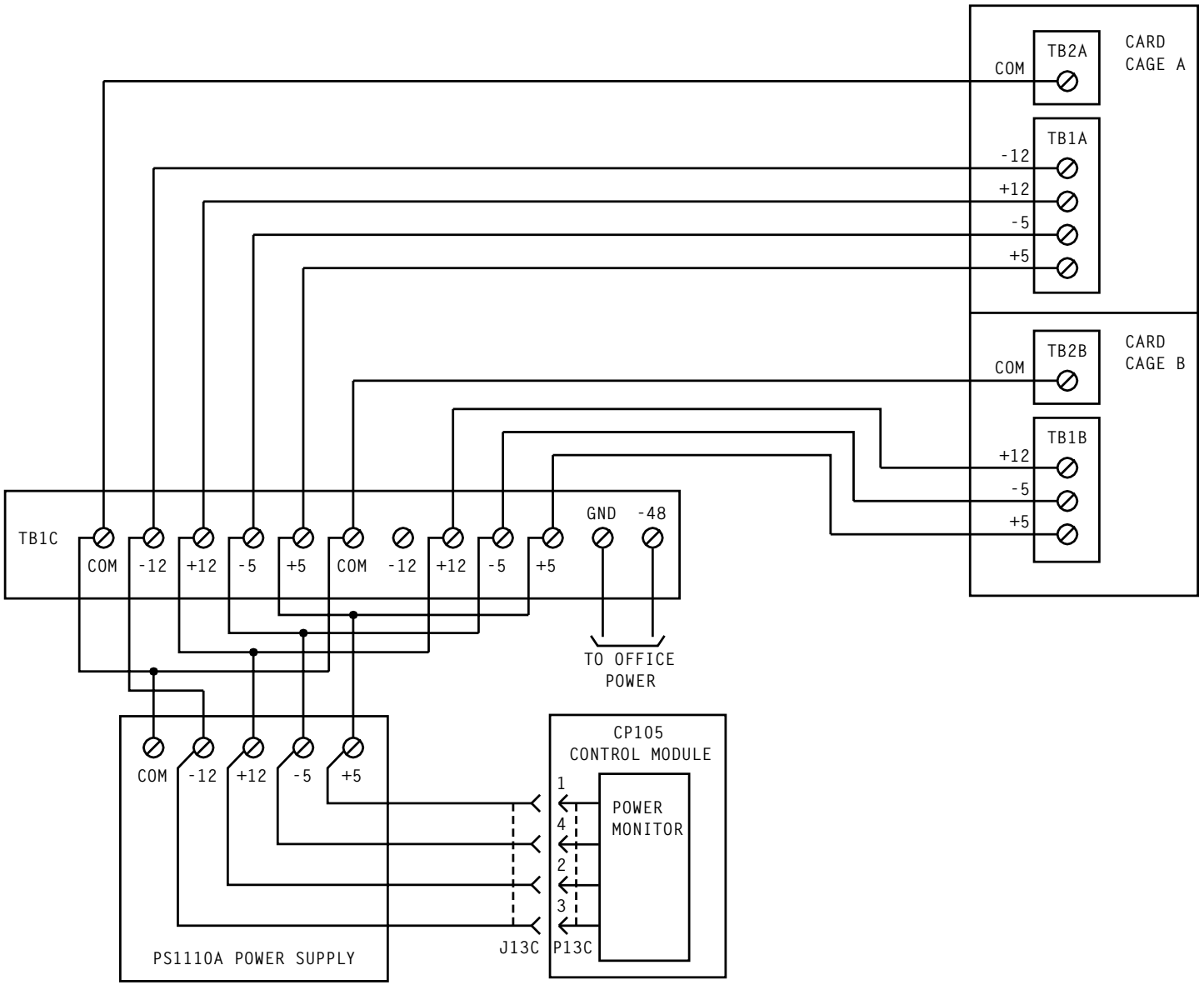


Figure 1 – Power Distribution – Simplified Diagram

CLEAR LOW VOLTAGE ALARM

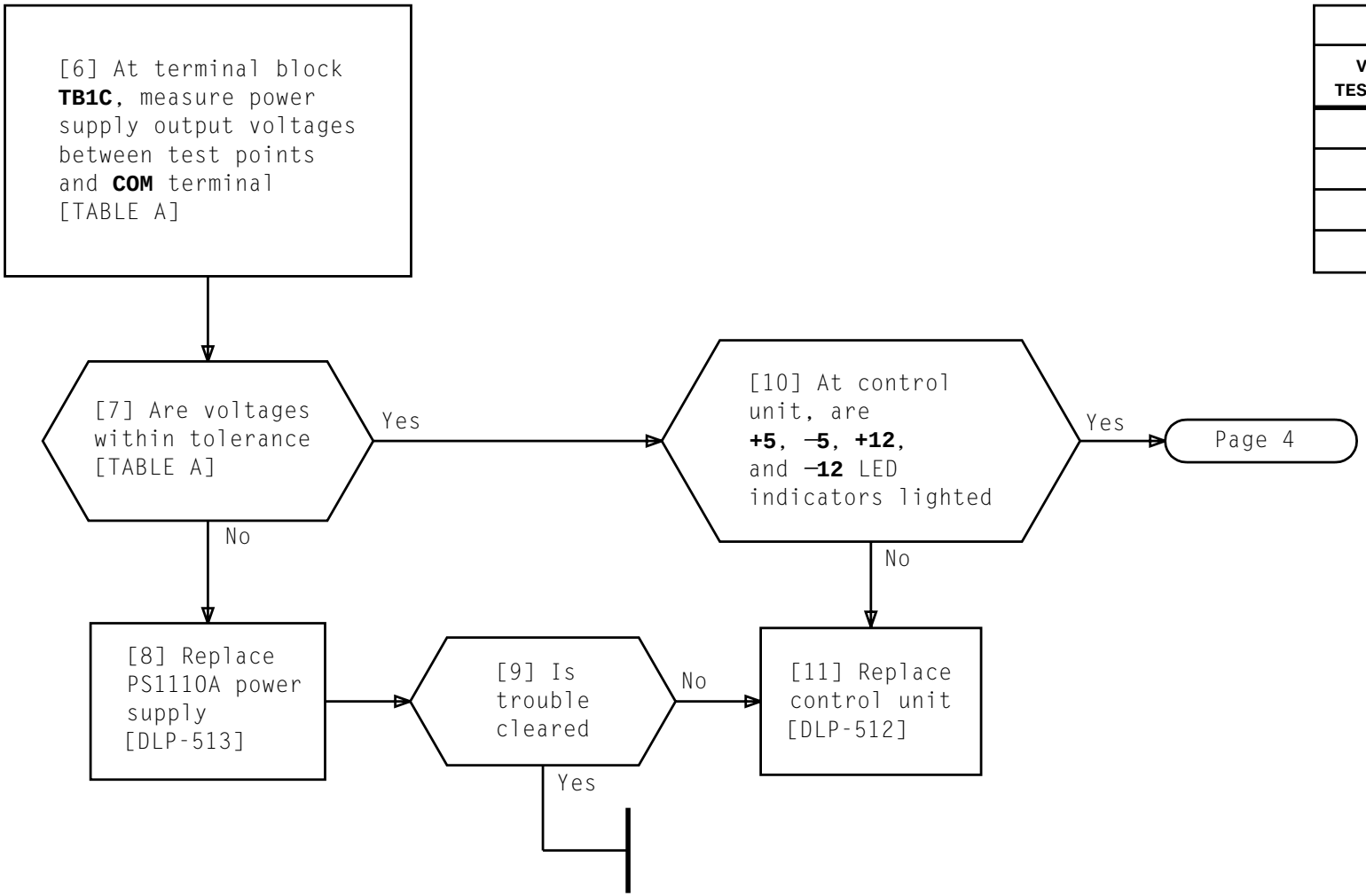
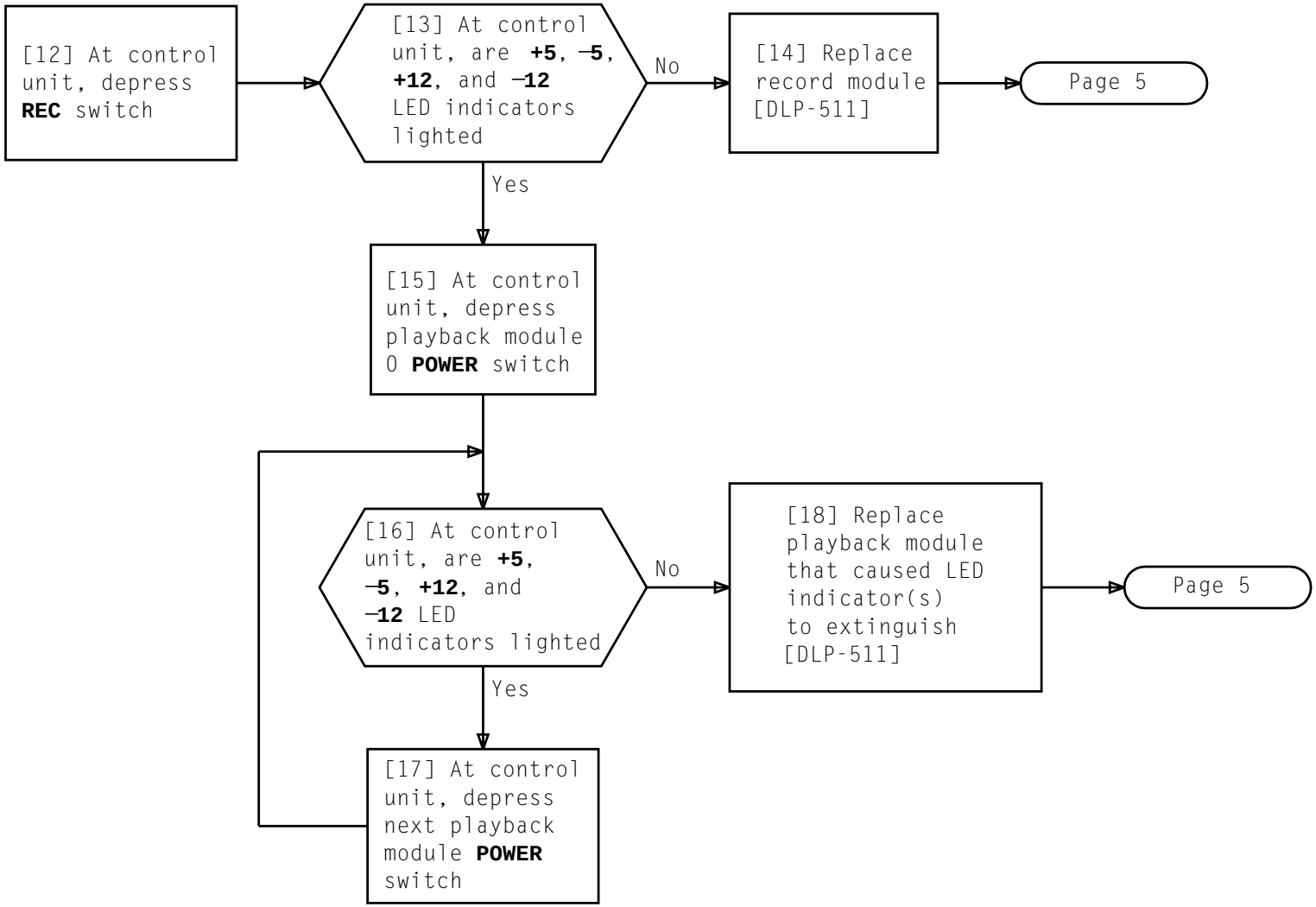


TABLE A	
VOLTAGE TEST POINTS	**RANGE**
+5.25	5.00 to 5.50
−5	−4.75 to −5.25
+12	11.5 to 12.5
−12	−11.5 to −12.5

CLEAR LOW VOLTAGE ALARM

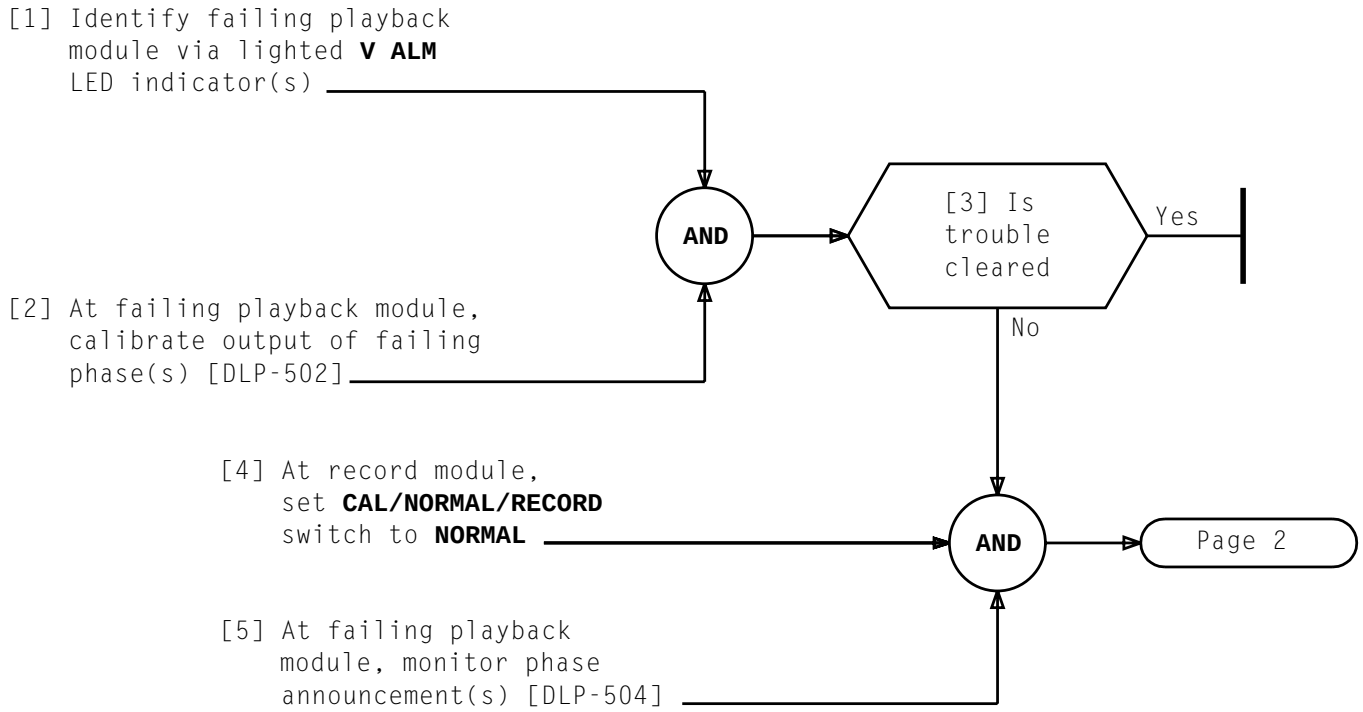


CLEAR LOW VOLTAGE ALARM

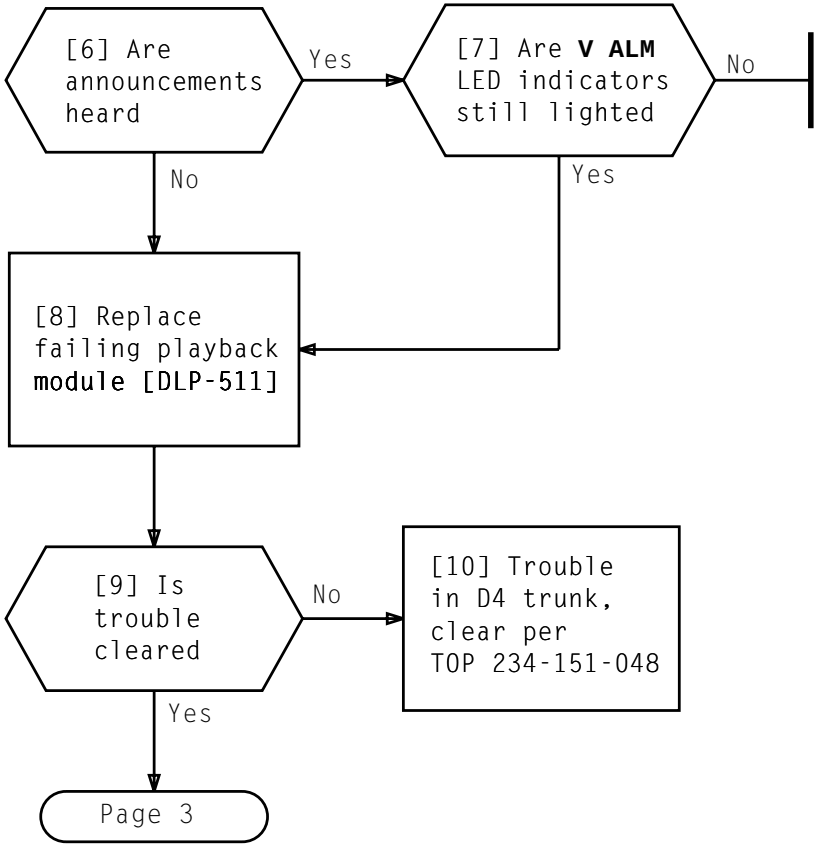
[19] At control unit, depress **POWER** switches of remaining playback modules → [20] Rerecord announcements [TABLE B]

TABLE B	
METHOD OF RECORDING	**GO TO**
Via Prerecorded Tapes	NTP-003
At Frame With Headset/Handset	NTP-004
At Dedicated Telephone	NTP-005

CLEAR LOW VOLTAGE ALARM



CLEAR VOICE ALARM



CLEAR VOICE ALARM

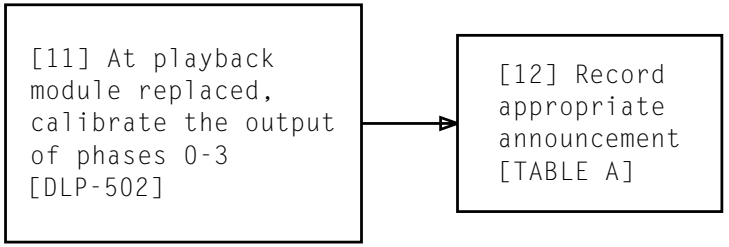
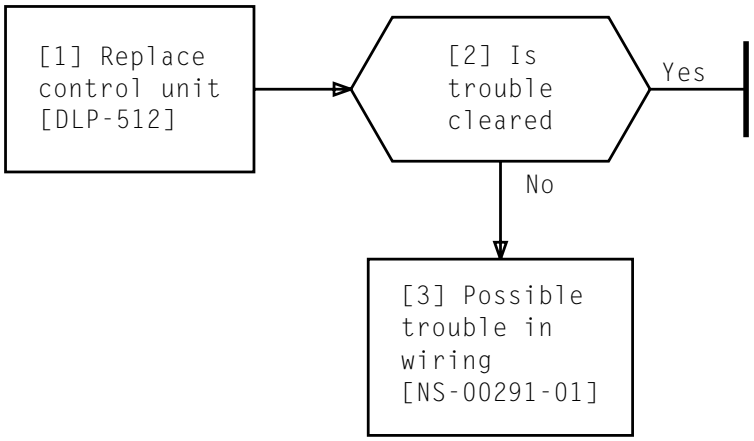


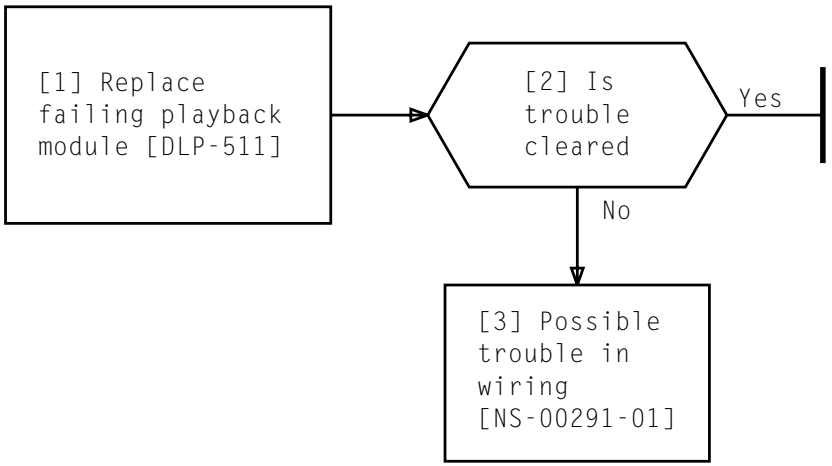
TABLE A

METHOD OF RECORDING	GO TO
Via Prerecorded Tapes	NTP-003
At Frame With Headset/Handset	NTP-004
At Dedicated Telephone	NTP-005

CLEAR VOICE ALARM



CLEAR CLOCK FAILURE



CLEAR HEAD SWITCHING FAILURE

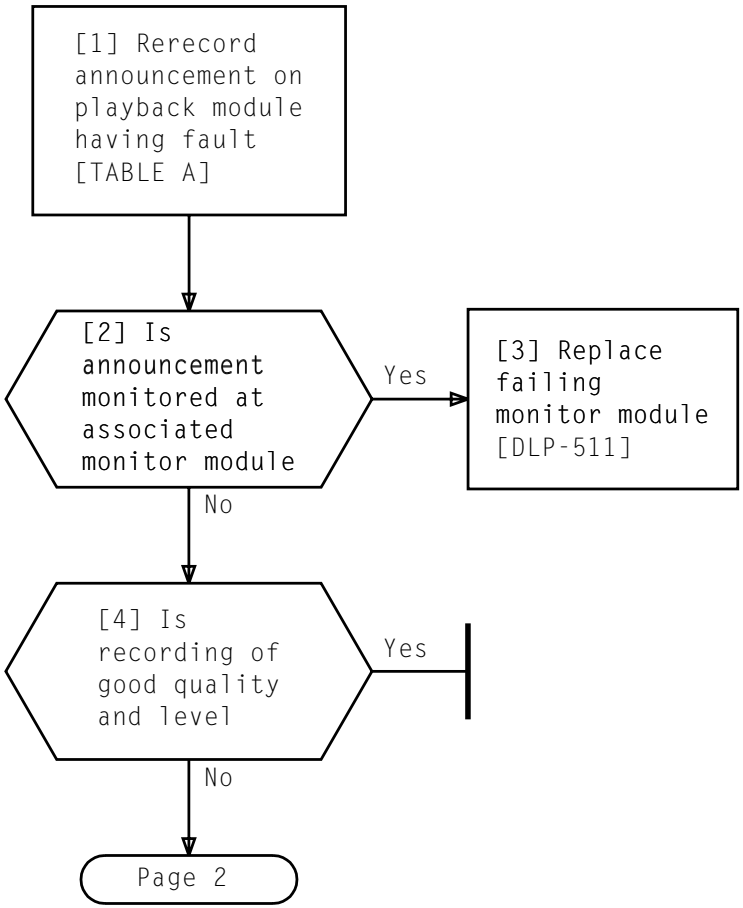


TABLE A	
METHOD OF RECORDING	GO TO
Via Prerecorded Tapes	NTP-003
At Frame With Headset/Handset	NTP-004
At Dedicated Telephone	NTP-005

CLEAR MESSAGE FAULT

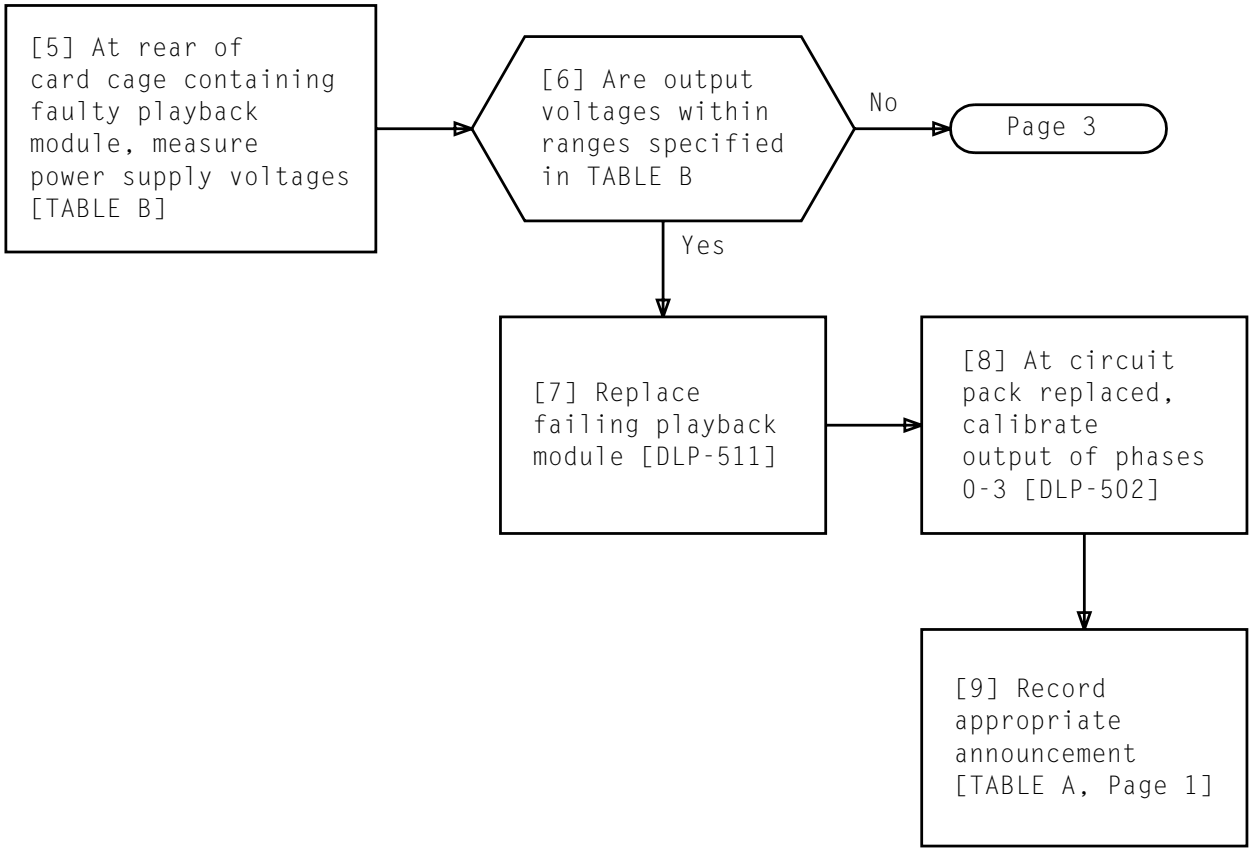


TABLE B

CARD CAGE	VOLTAGE TEST POINTS	RANGE
A	+5.25	5.00 to 5.50
	−5	−4.75 to −5.25
	+12	11.5 to 12.5
	−12	−11.5 to −12.5
B	+5.25	5.00 to 5.50
	−5	−4.75 to −5.25
	+12	11.5 to 12.5

CLEAR MESSAGE FAULT

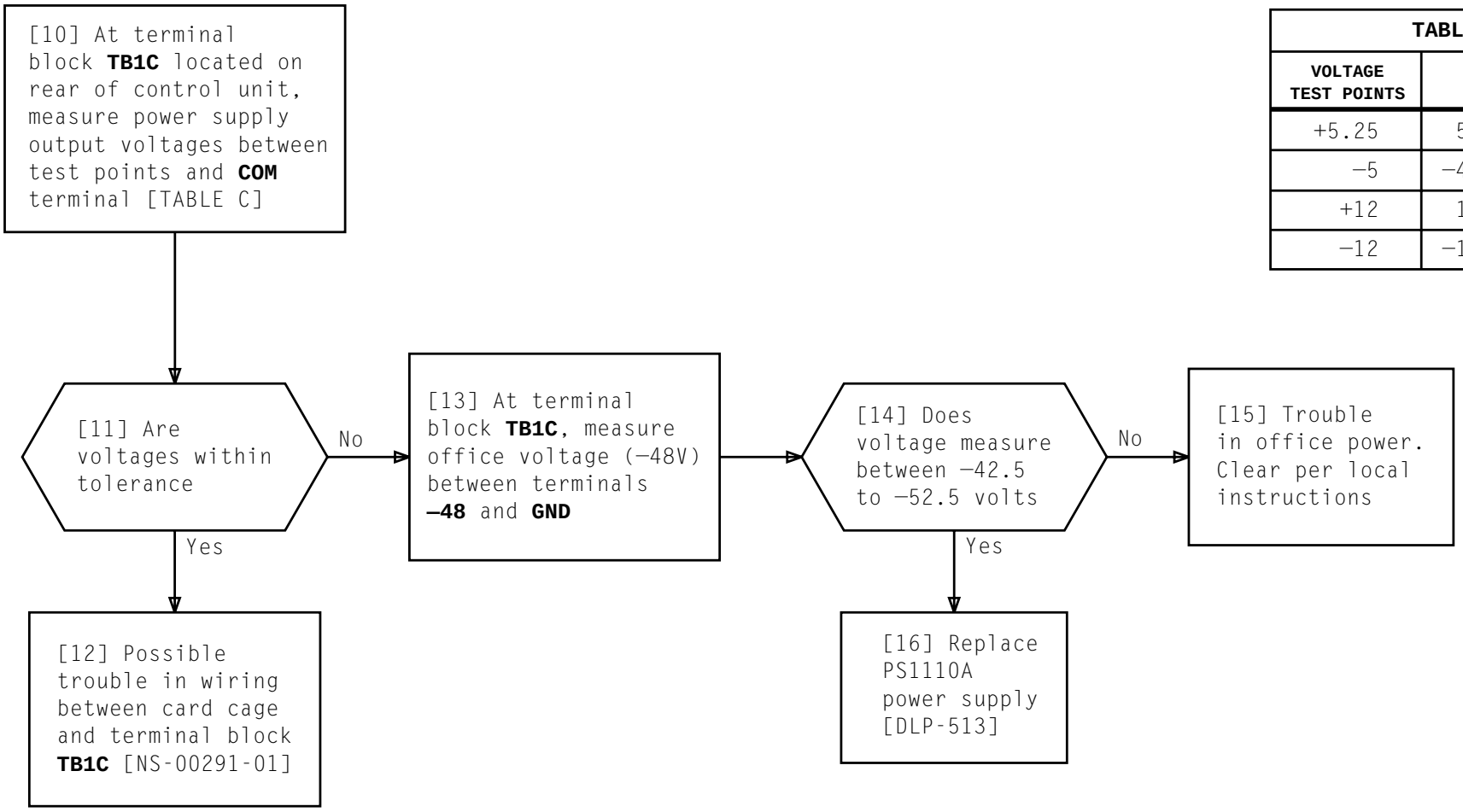
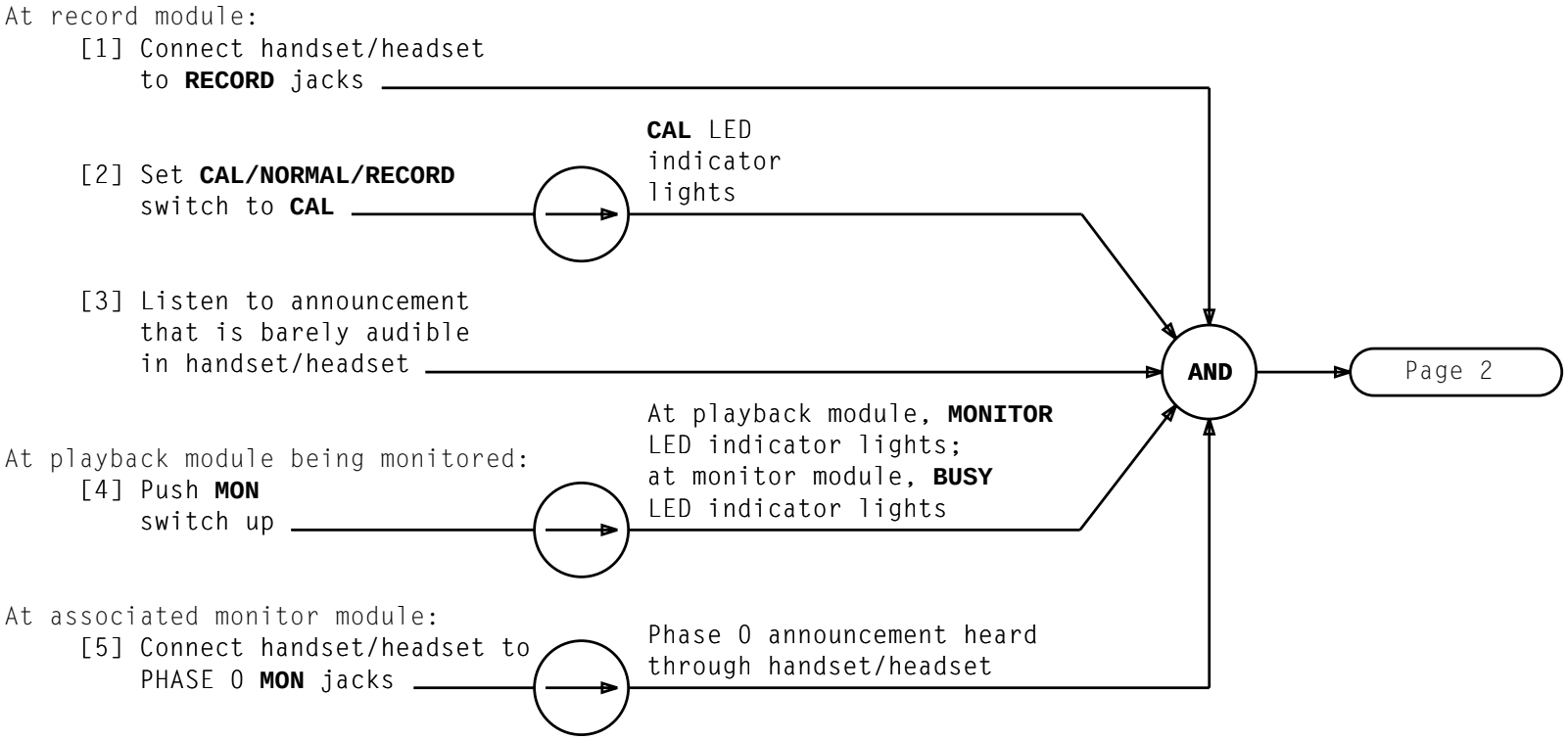


TABLE C	
VOLTAGE TEST POINTS	**RANGE**
+5.25	5.00 to 5.50
−5	−4.75 to −5.25
+12	11.5 to 12.5
−12	−11.5 to −12.5

CLEAR MESSAGE FAULT



CLEAR NOISE/VOICE QUALITY TROUBLE

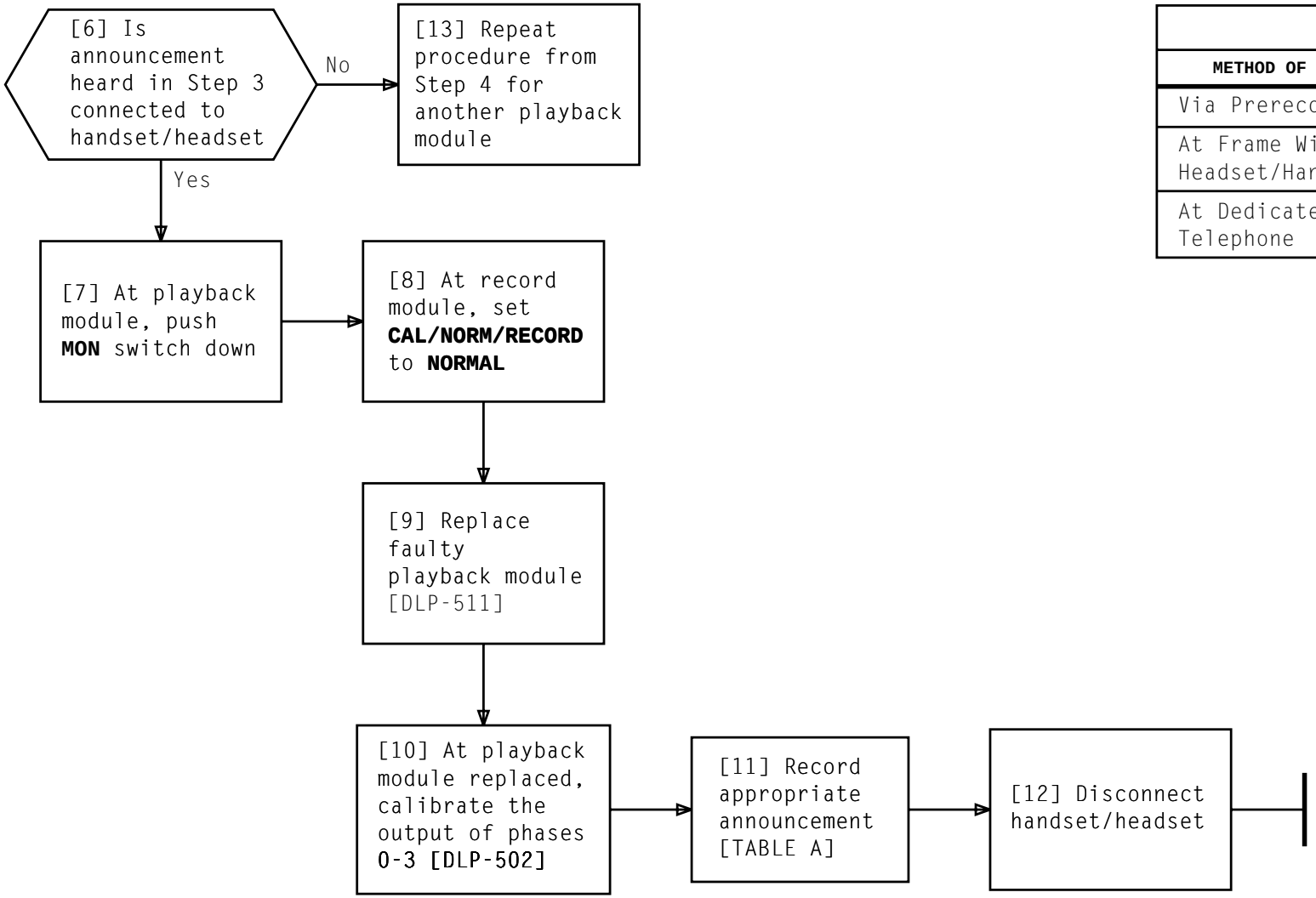


TABLE A

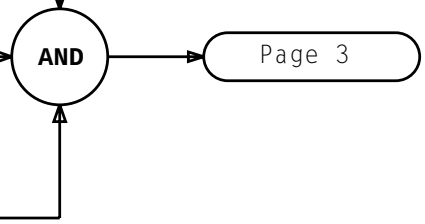
METHOD OF RECORDING	GO TO
Via Prerecorded Tapes	NTP-003
At Frame With Headset/Handset	NTP-004
At Dedicated Telephone	NTP-005

CLEAR NOISE/VOICE QUALITY TROUBLE

[1] (See Note 1) Obtain high quality cassette recorder (Sony model TCM-5000EV or equivalent), KS-22566 Interface Unit, headset/handset, and Transmission Measuring Set (TMS)

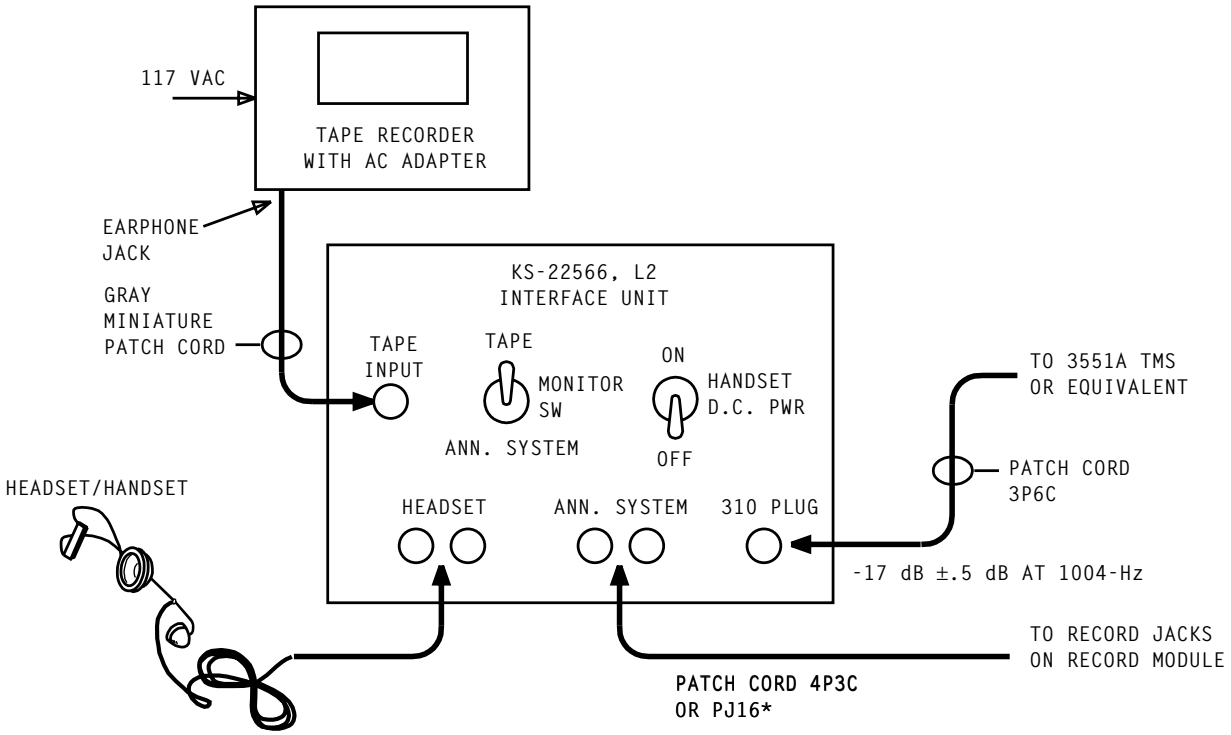
[2] Set TMS to **TERMINATED** and connect patch cord to **RECEIVE** jack

[3] Make connections per Figure 1, Page 2



NOTE 1
To obtain more precise speed control, cassette recorder should be powered from 120V AC, 60 Hz. In situations where 120V AC is unavailable or very inconvenient to use, battery operation is acceptable if batteries are fresh.

CALIBRATE CASSETTE RECORDER TAPE SPEED



* THE PJ16 PATCH CORD IS MANUFACTURED BY ADC TELECOMMUNICATIONS, MINNEAPOLIS, MINNESOTA

Figure 1 – Connections for Calibrating Cassette Recorder Tape Speed

CALIBRATE CASSETTE RECORDER TAPE SPEED

At Cassette Recorder:

[4] Load desired cassette tape

[5] Depress **FAST FORWARD** and advance tape to end of tape

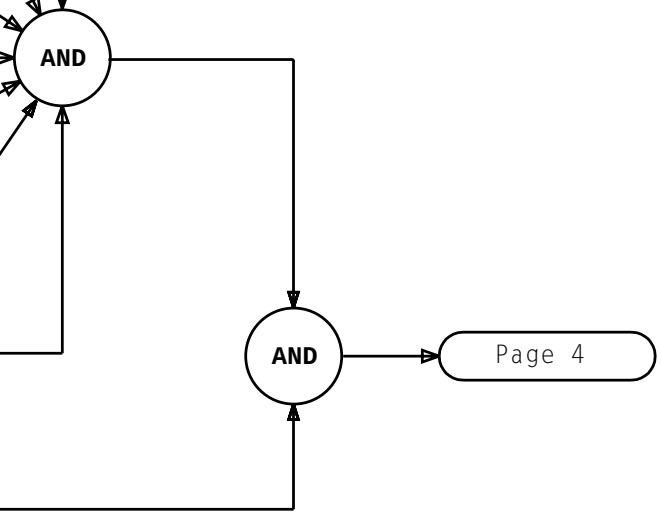
[6] Depress **STOP**

[7] Depress **REWIND** and rewind tape to beginning

[8] Depress **STOP**

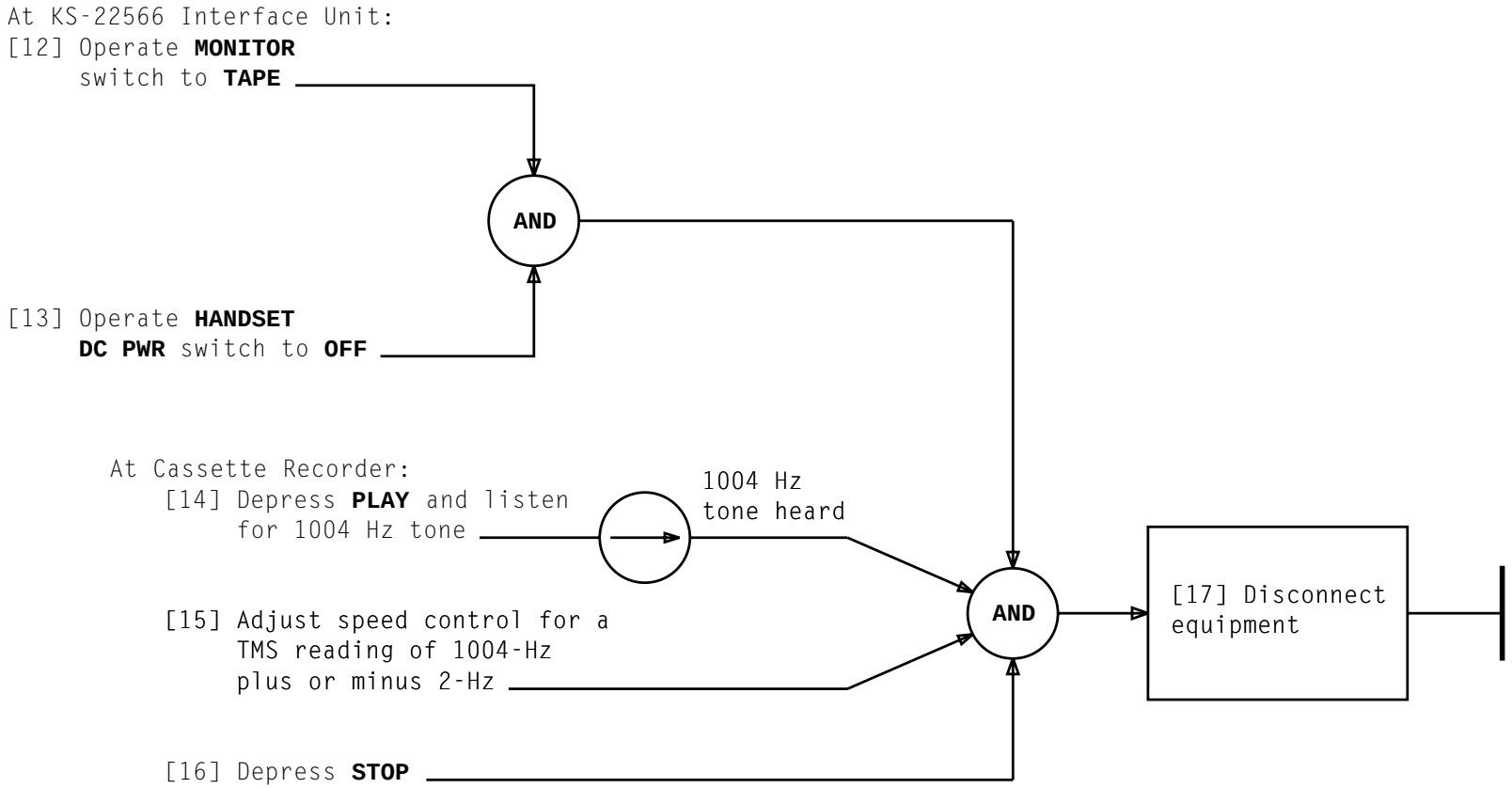
[9] Depress **PLAY**

[10] Set tape **TONE** control counterclockwise to lowest setting

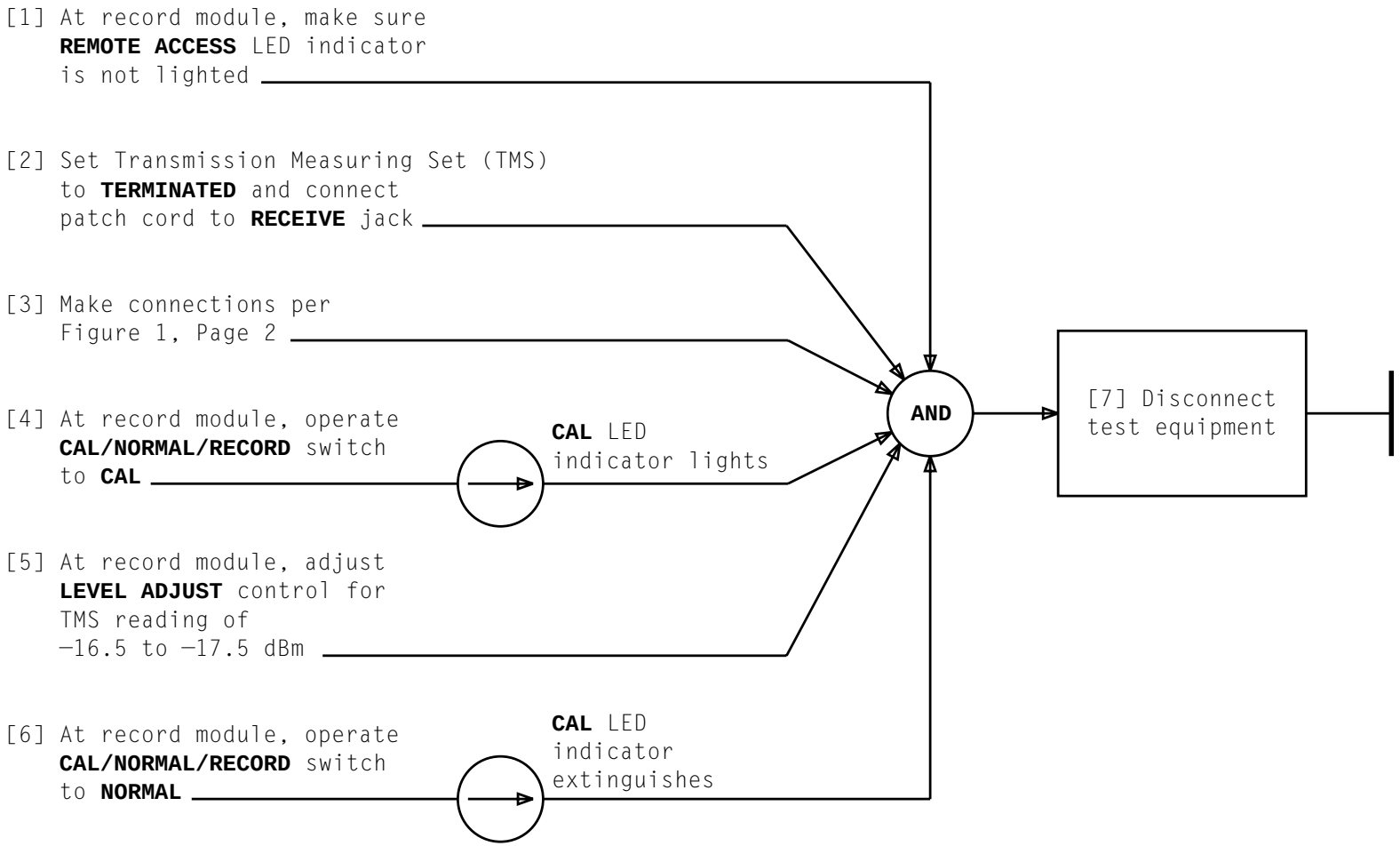


[11] Depress **STOP**

CALIBRATE CASSETTE RECORDER TAPE SPEED



CALIBRATE CASSETTE RECORDER TAPE SPEED



ADJUST RECORD LEVEL

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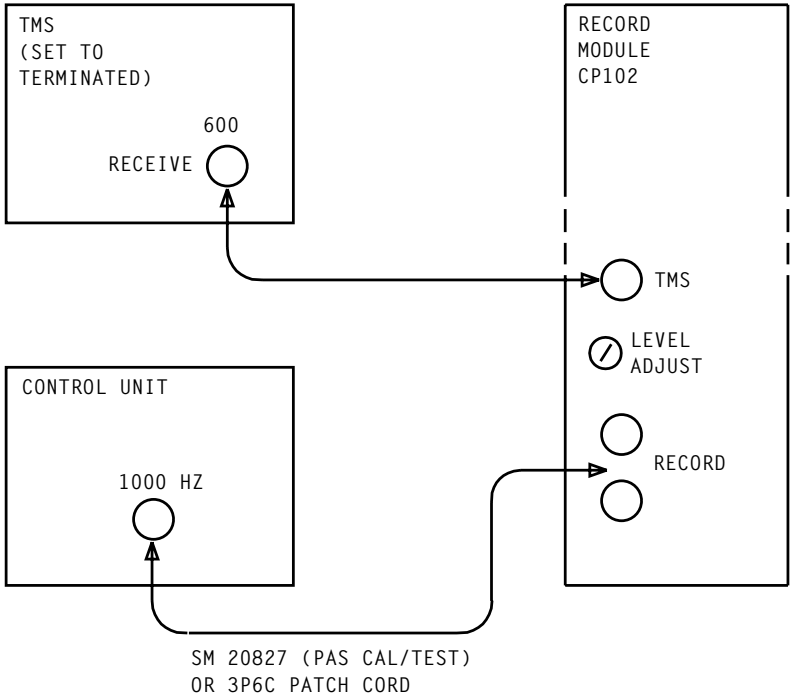
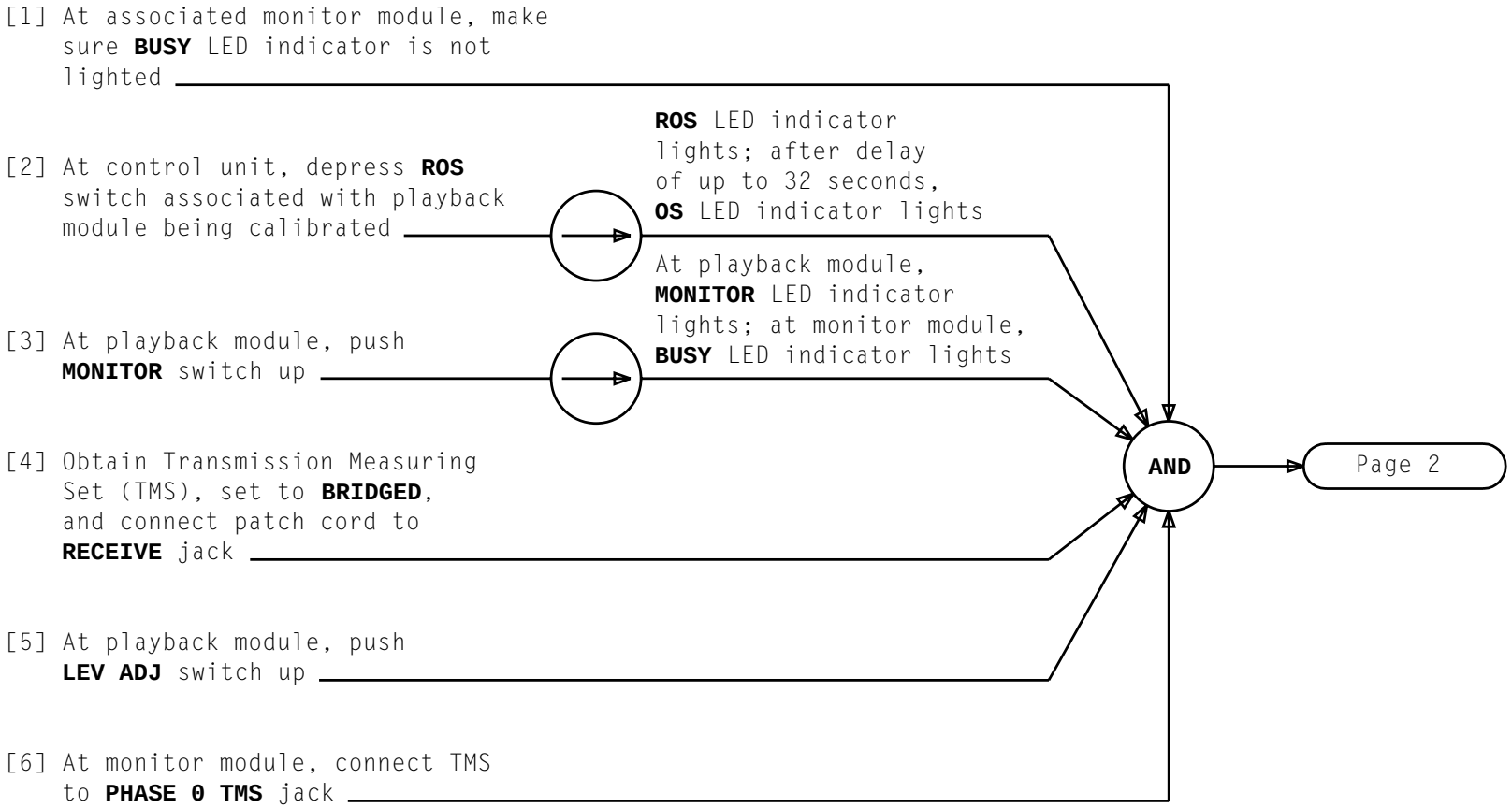


Figure 1 – Record Level Adjustment Setup

ADJUST RECORD LEVEL



PLAYBACK MODULE OUTPUT CALIBRATION

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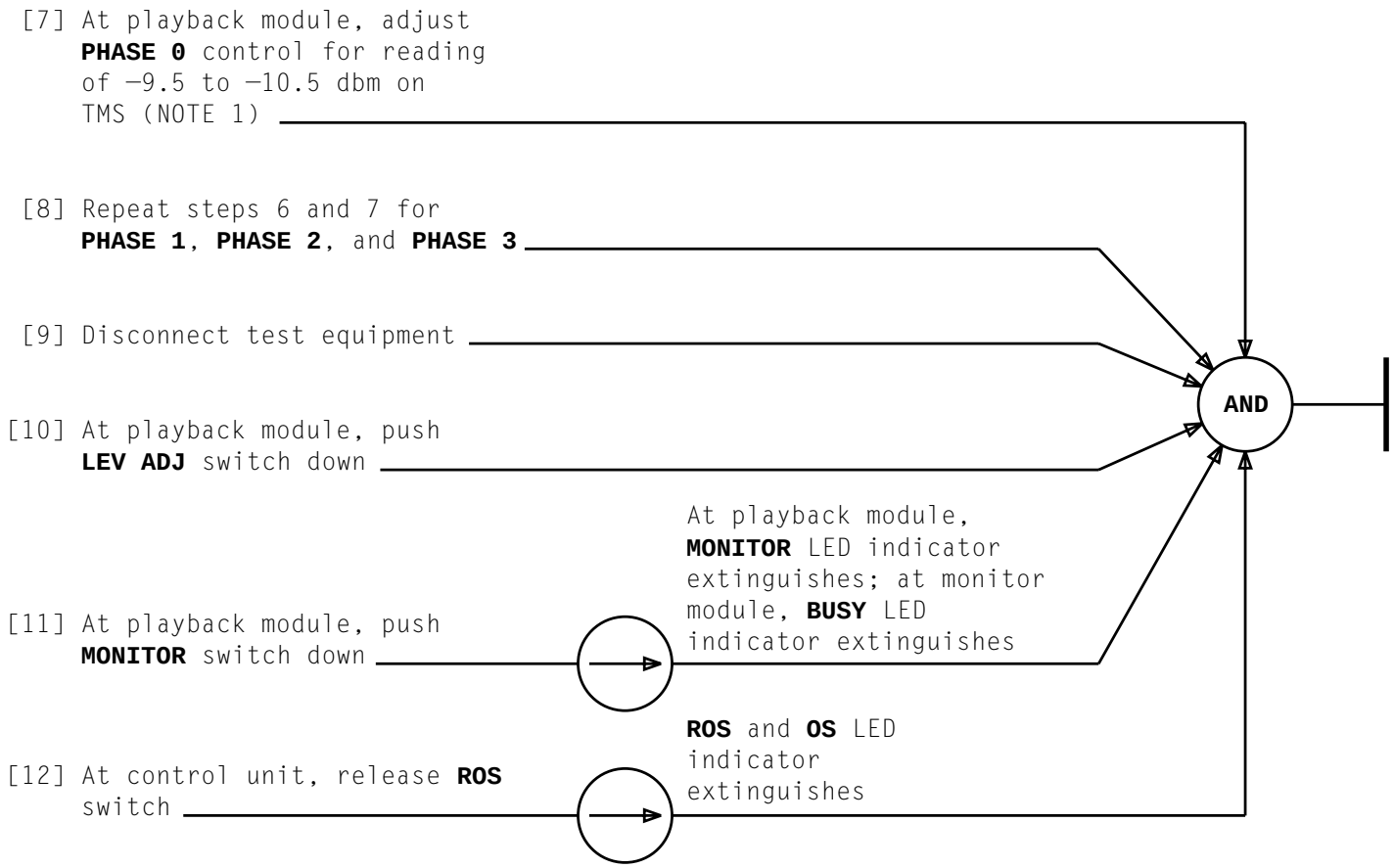


PLAYBACK MODULE OUTPUT CALIBRATION

NOTE 1
If office loss is more than 3 dB (±1.0 dB), output level must be increased to offset additional loss

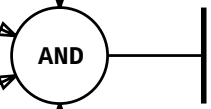
At dedicated telephone:

[1] Lift handset

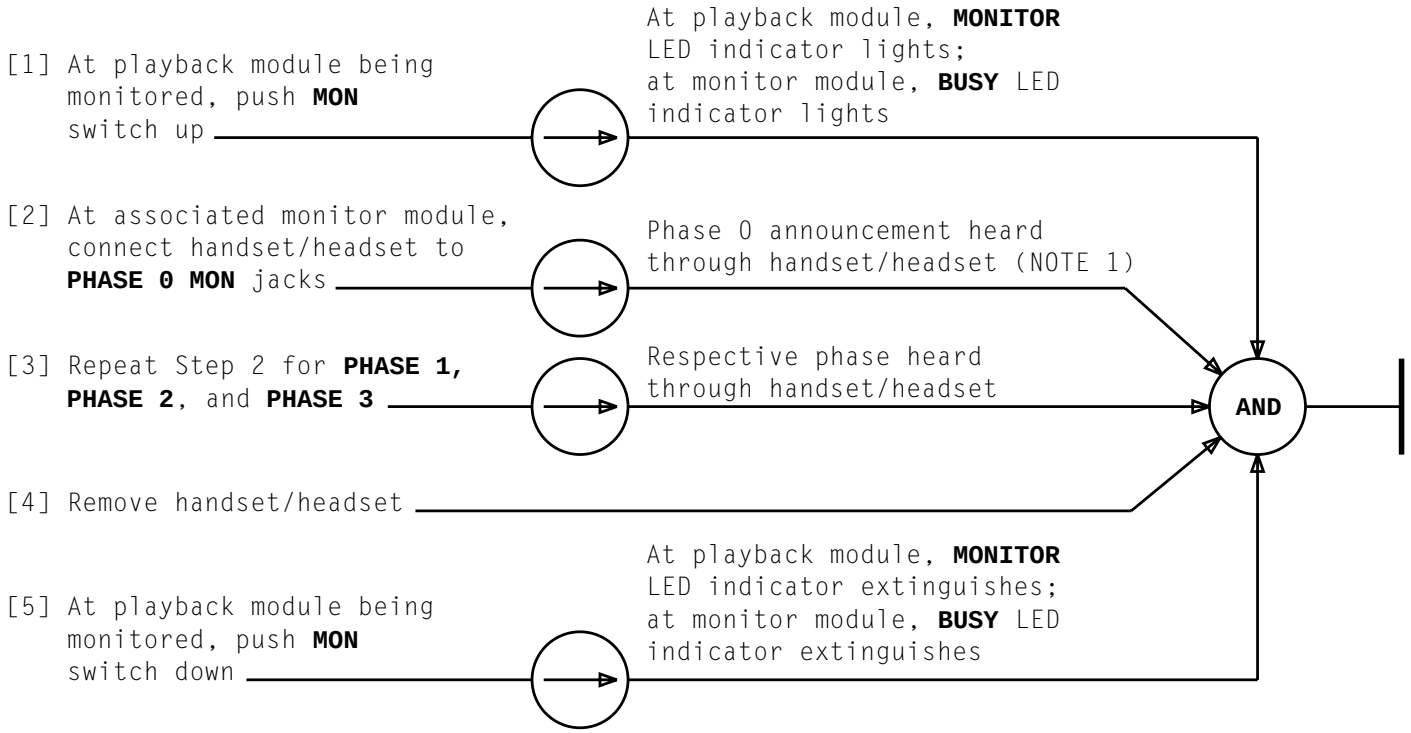
[2] Select channel by depressing channel selection key

[3] Monitor selected channel (only phase 0 can be monitored)

[4] When monitoring is complete, depress **RLS** key and place handset on-hook



MONITORING FROM DEDICATED TELEPHONE



NOTE 1
Announcement is more difficult to hear at playback module than at the Record Module or Call Director phone

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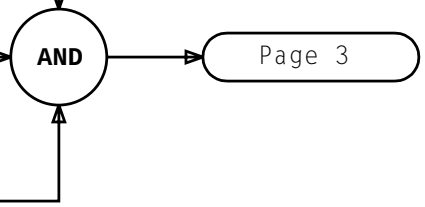
MONITORING AT PAS FRAME

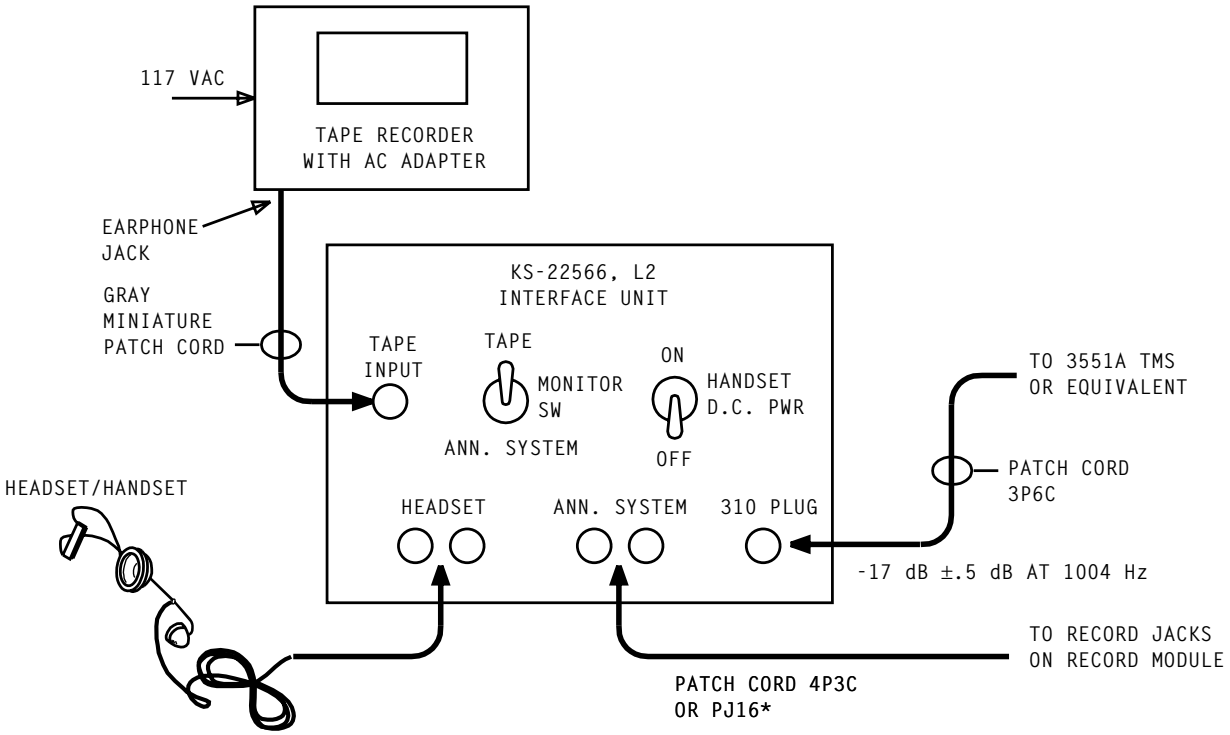
[1] Obtain high quality cassette recorder (Sony model TMC-5000EV or equivalent), KS-22566 Interface Unit, headset/handset, and Transmission Measuring Set (TMS)

[2] Set TMS to **TERMINATED** and connect patch cord to **RECEIVE** jack

[3] Make connections per Figure 1, Page 2



RECORDING AT FRAME WITH PRERECORDED CASSETTE TAPES



* THE PJ16 PATCH CORD IS MANUFACTURED BY ADC TELECOMMUNICATIONS, MINNEAPOLIS, MINNESOTA

Figure 1 — Connections for Recording at the Frame

RECORDING AT FRAME WITH PRERECORDED CASSETTE TAPES

At cassette recorder:

[4] Load desired cassette tape

[5] Depress **FAST FORWARD** and advance tape to end of tape

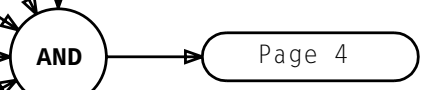
[6] Depress **STOP**

[7] Depress **REWIND** and rewind tape to beginning

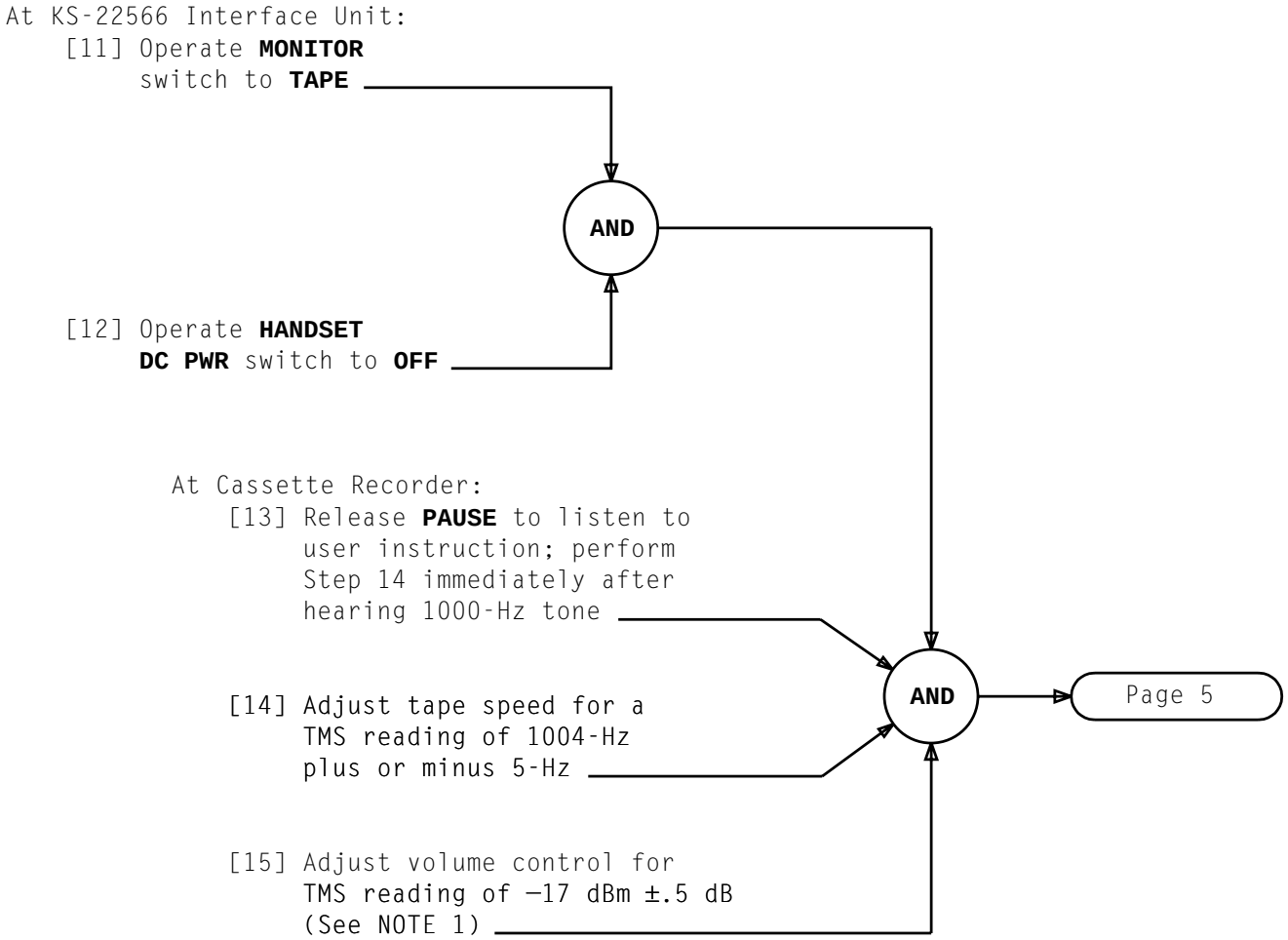
[8] Depress **STOP**

[9] Depress **PLAY** and listen to "condition encountered" to verify proper tape selection

[10] At conclusion of "Condition Encountered", depress **PAUSE**

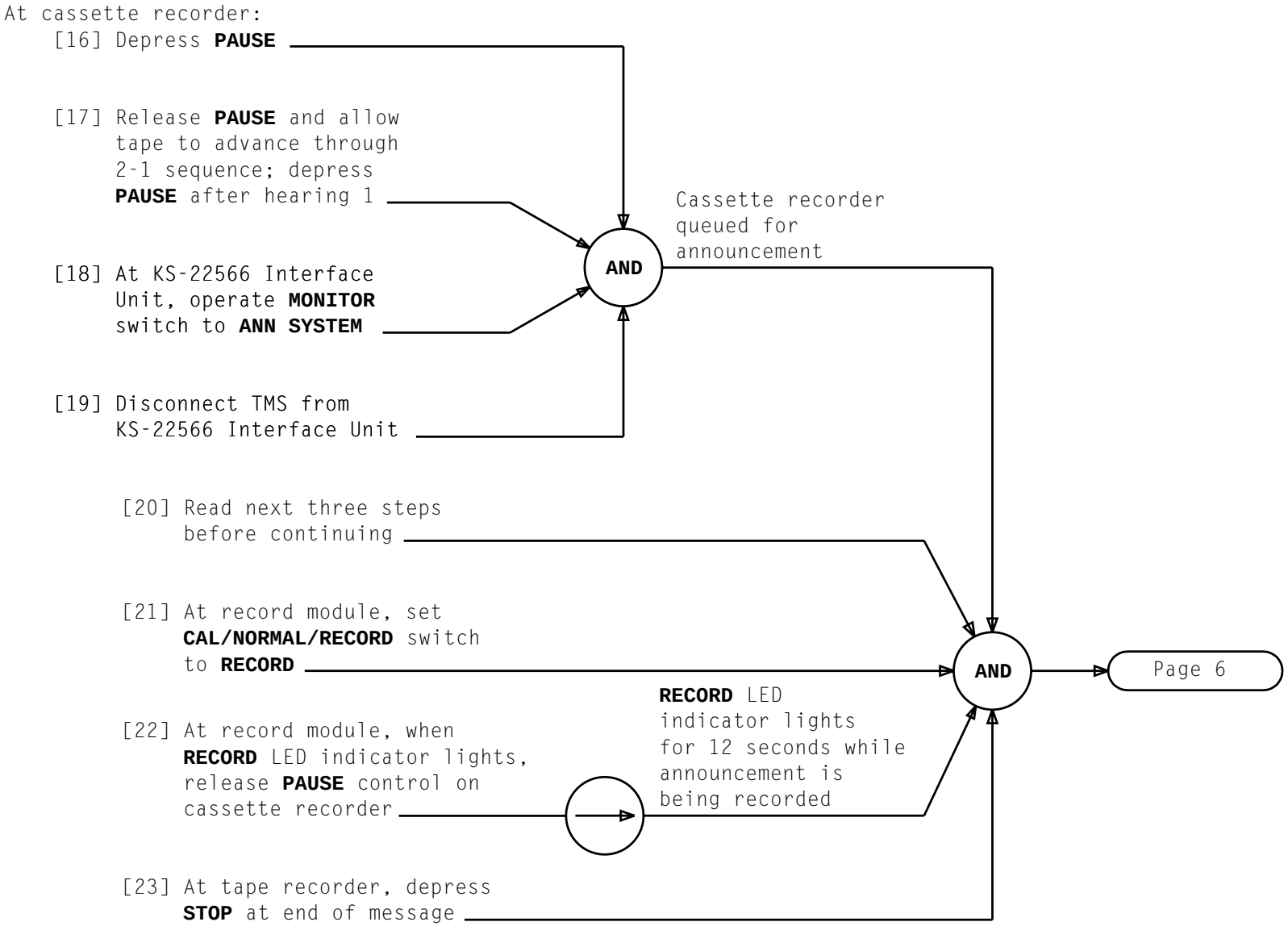


RECORDING AT FRAME WITH PRERECORDED CASSETTE TAPES

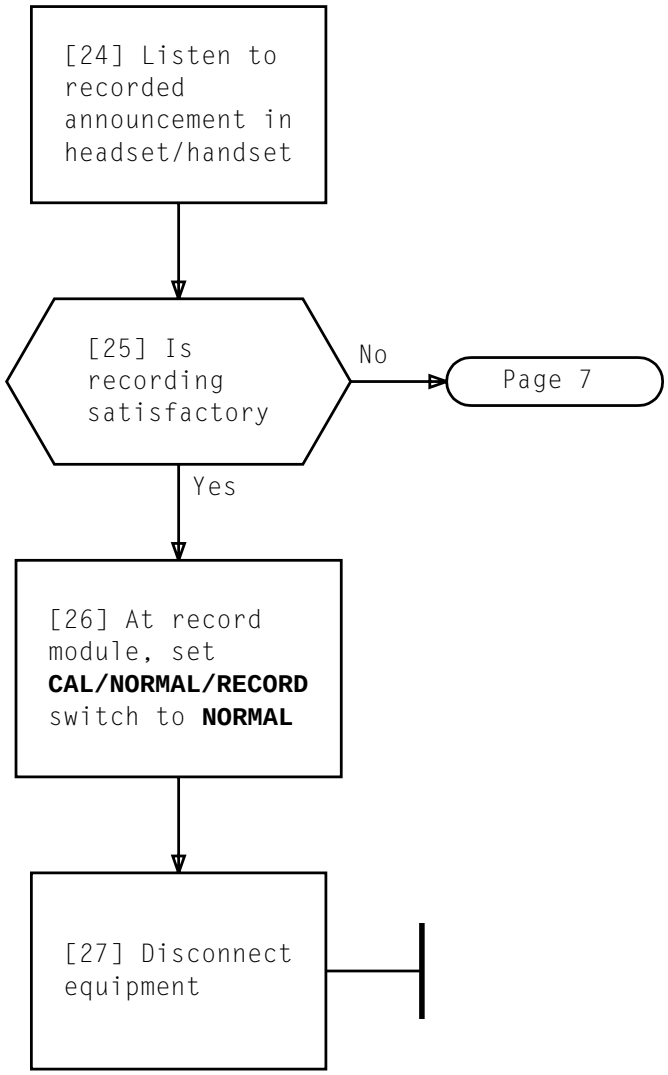


NOTE 1
If tone is removed before adjustment is completed, the tape should be rewound and the tone restarted before completing adjustment

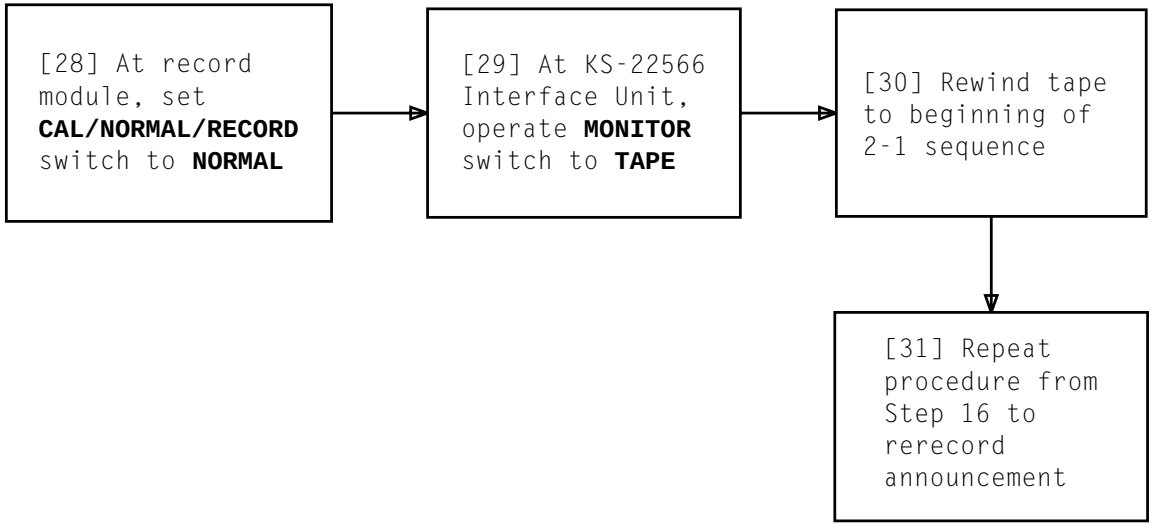
RECORDING AT FRAME WITH PRERECORDED CASSETTE TAPES



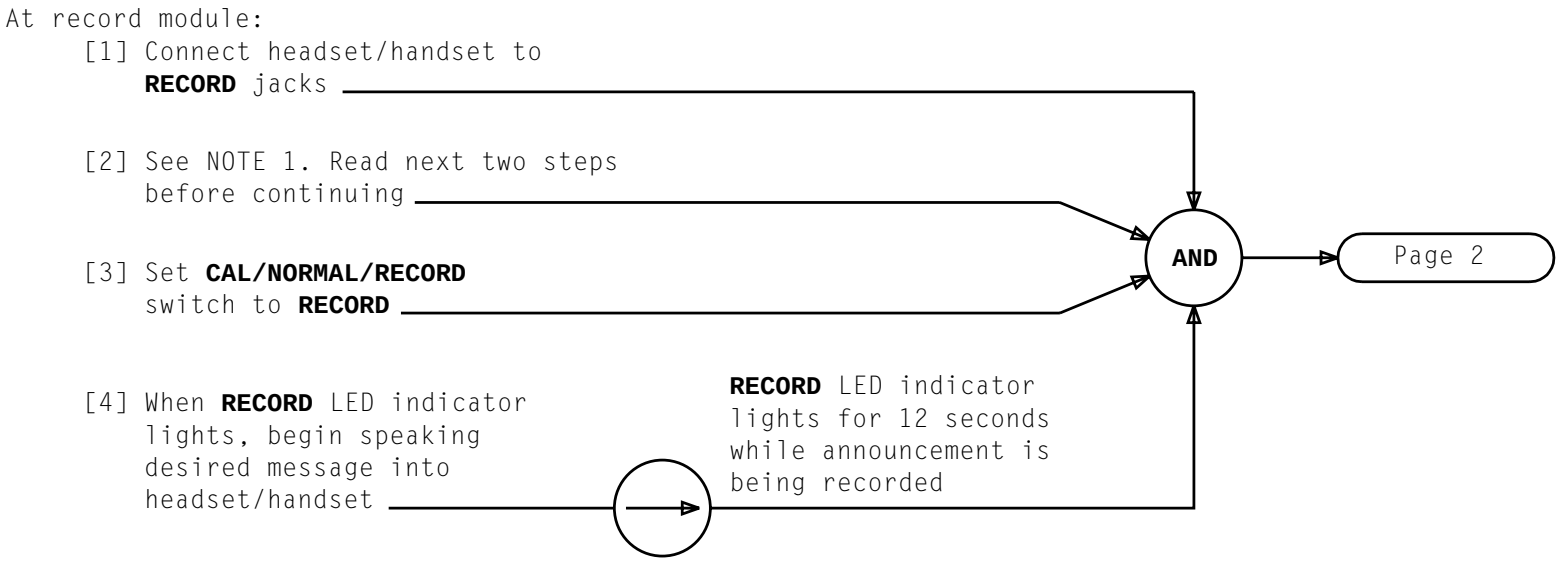
RECORDING AT FRAME WITH PRERECORDED CASSETTE TAPES



RECORDING AT FRAME WITH PRERECORDED CASSETTE TAPES



RECORDING AT FRAME WITH PRERECORDED CASSETTE TAPES



RECORDING AT FRAME WITH HEADSET/HANDSET

NOTE 1
Record session lasts for exactly 12 seconds

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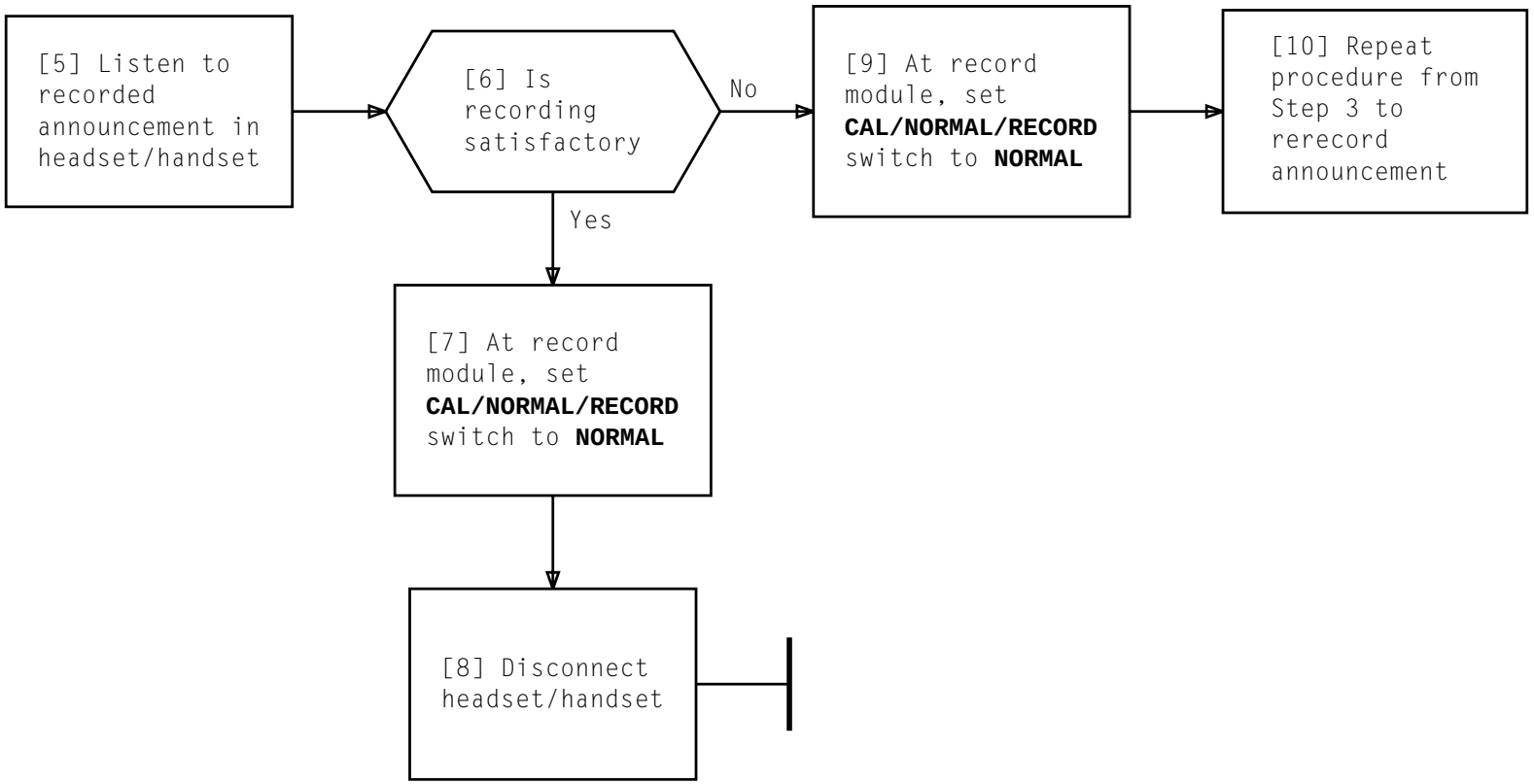
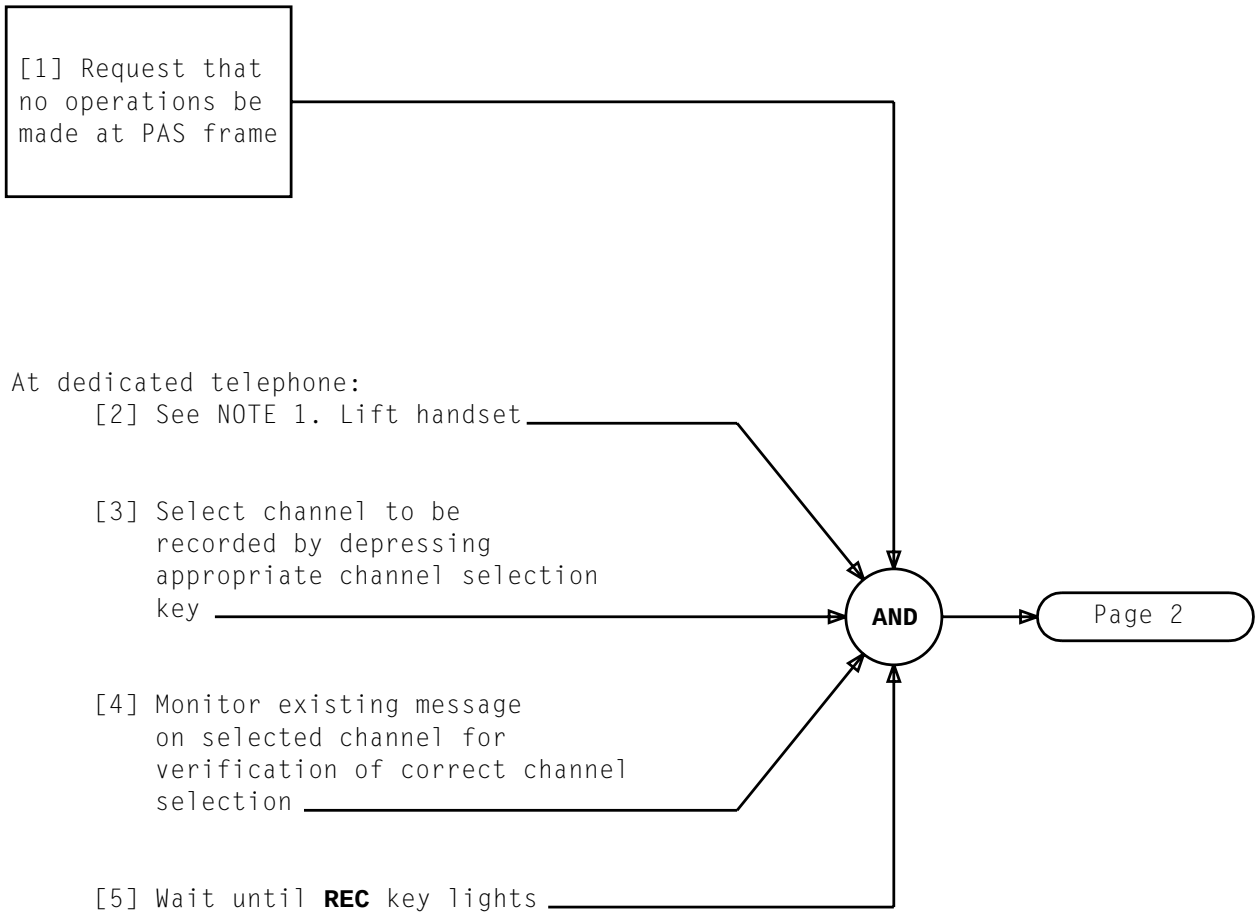


RECORDING AT FRAME WITH HEADSET/HANDSET



NOTE 1
At any time during this procedure, record session may be ended by hanging up telephone and depressing **RLS** key. Previously recorded message is still present

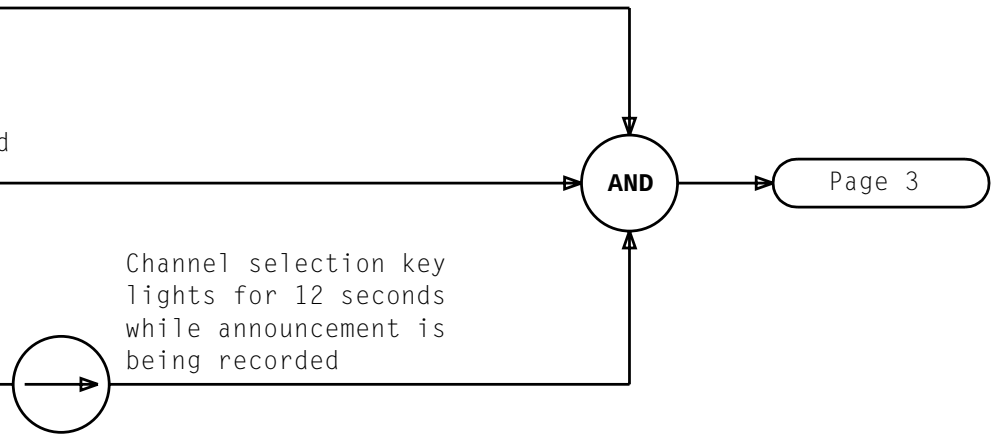
RECORDING AT DEDICATED TELEPHONE

At dedicated telephone:

[6] See NOTE 2. Read next two steps before continuing

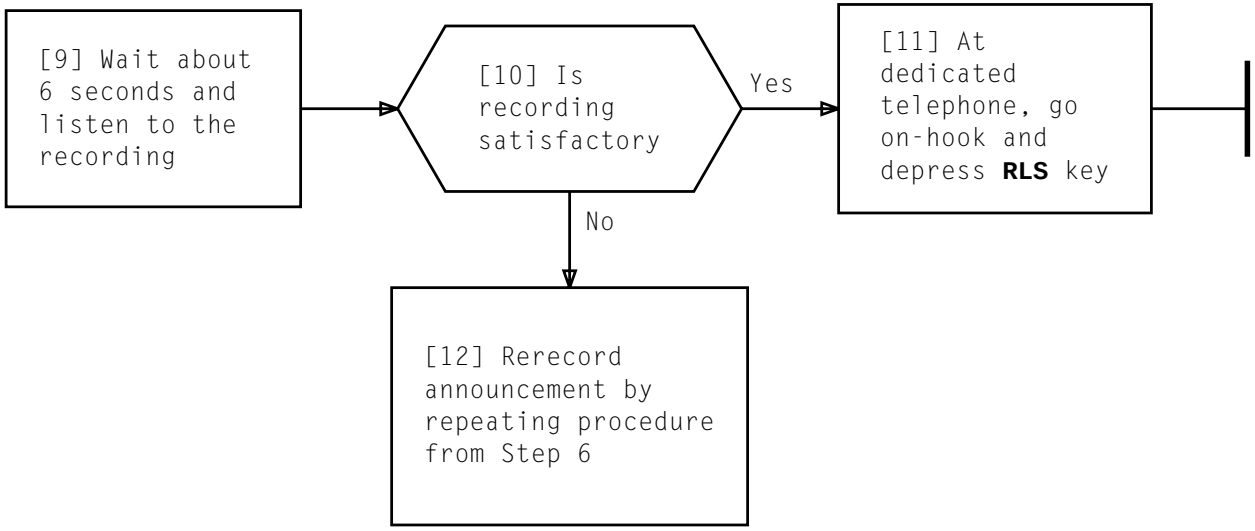
[7] Depress and release lighted **REC** key

[8] When channel selection key lights, begin announcement

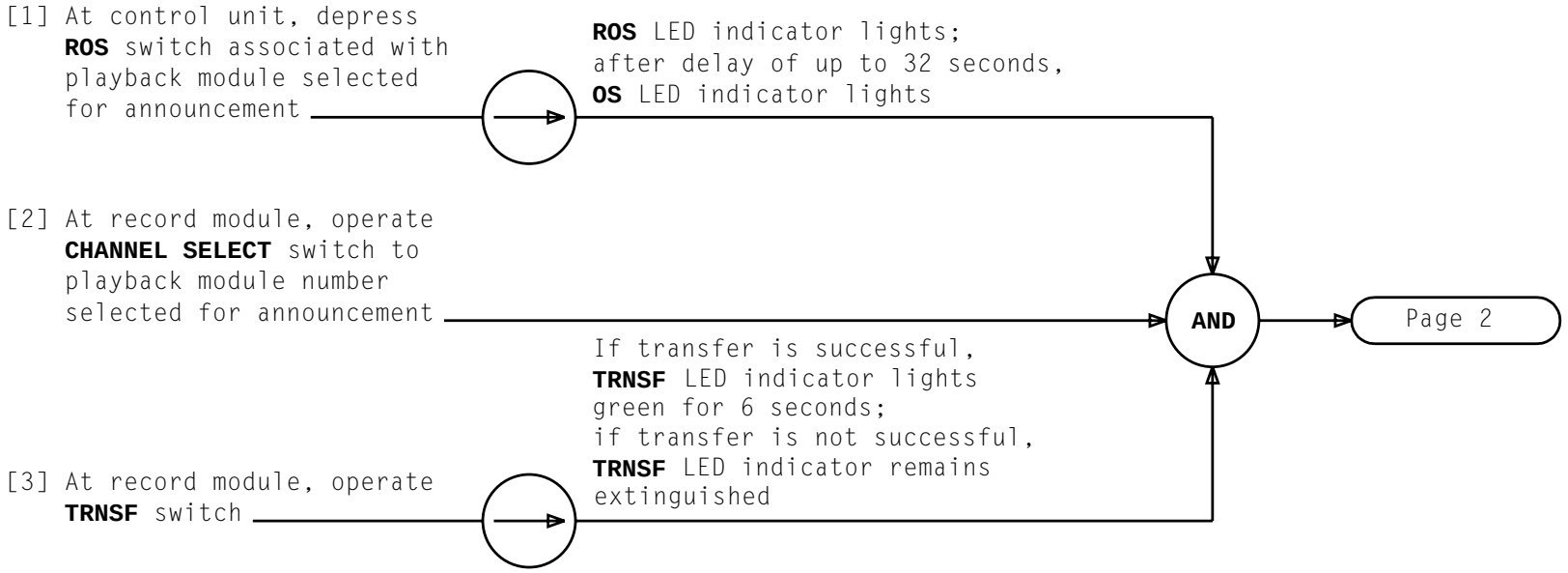


NOTE 2
Duration of record session, from the moment the channel selection key lights to the moment it is extinguished is exactly 12 seconds

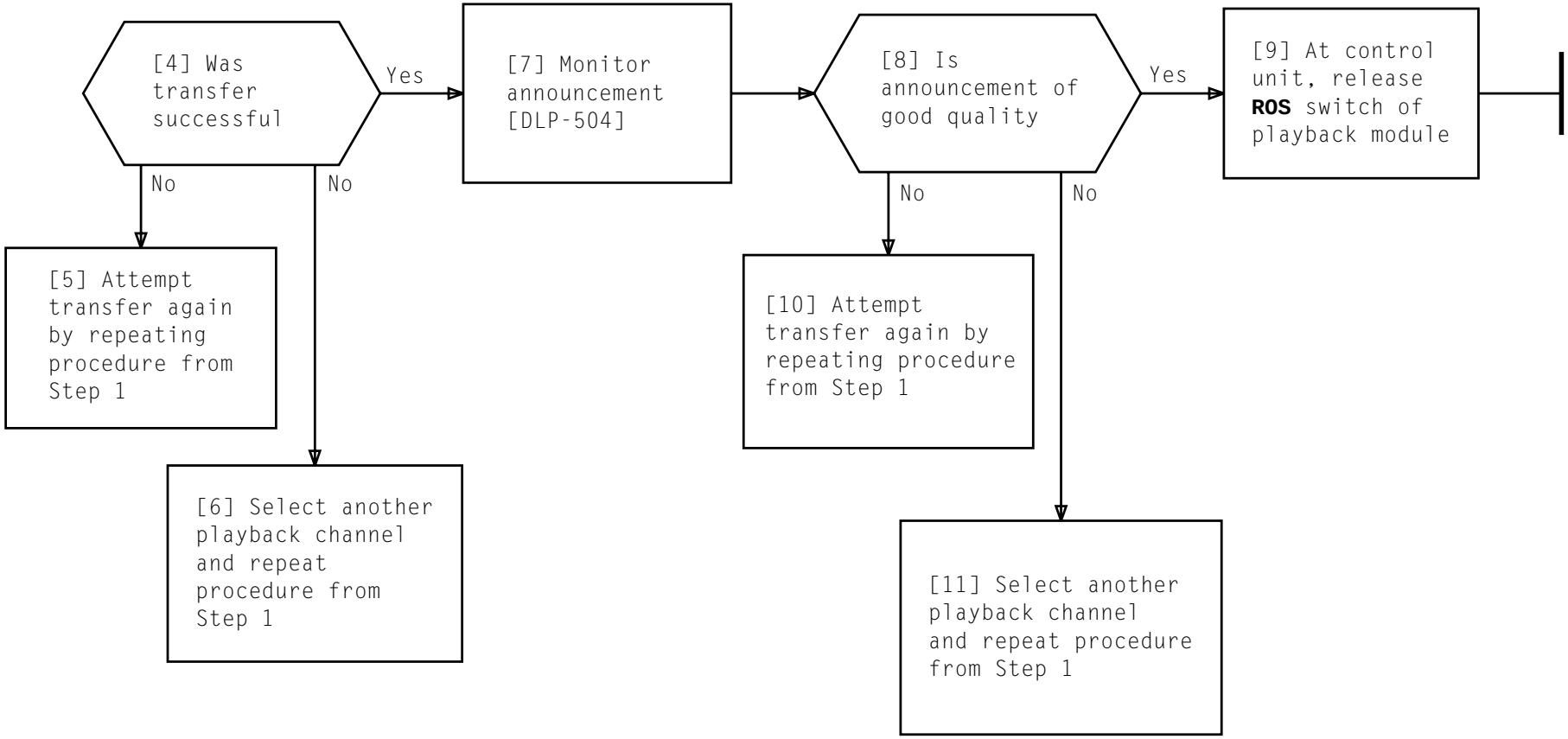
RECORDING AT DEDICATED TELEPHONE



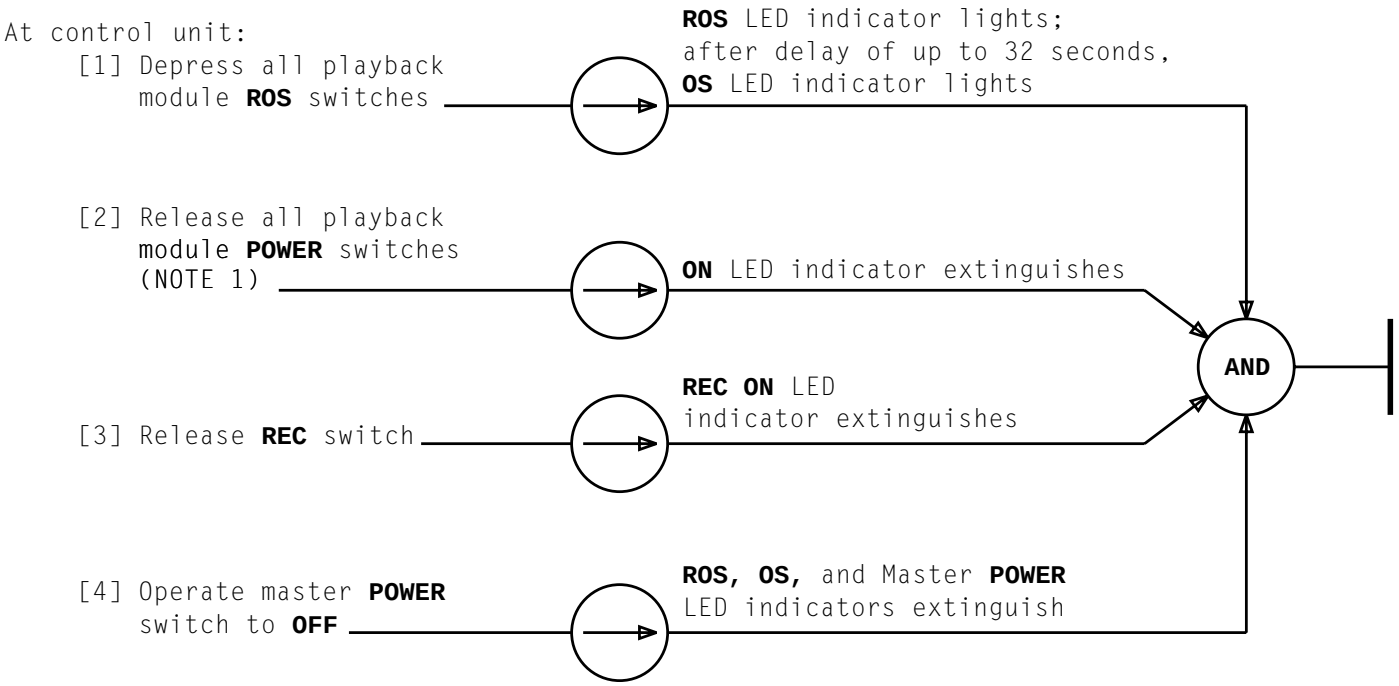
RECORDING AT DEDICATED TELEPHONE



TRANSFER ANNOUNCEMENT TO PLAYBACK MODULE



TRANSFER ANNOUNCEMENT TO PLAYBACK MODULE



REMOVING POWER FROM PAS FRAME

NOTE 1 When power is removed, all recordings are lost	
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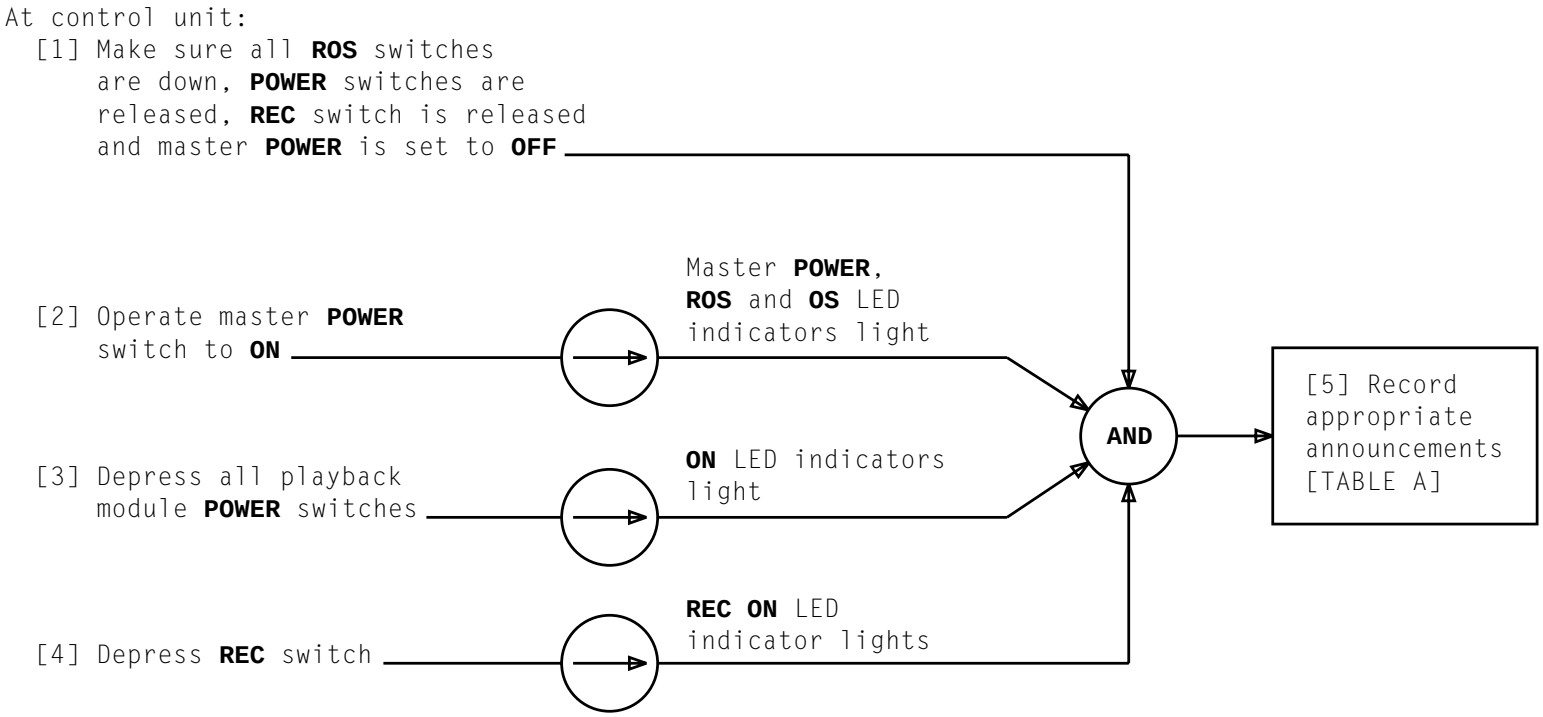
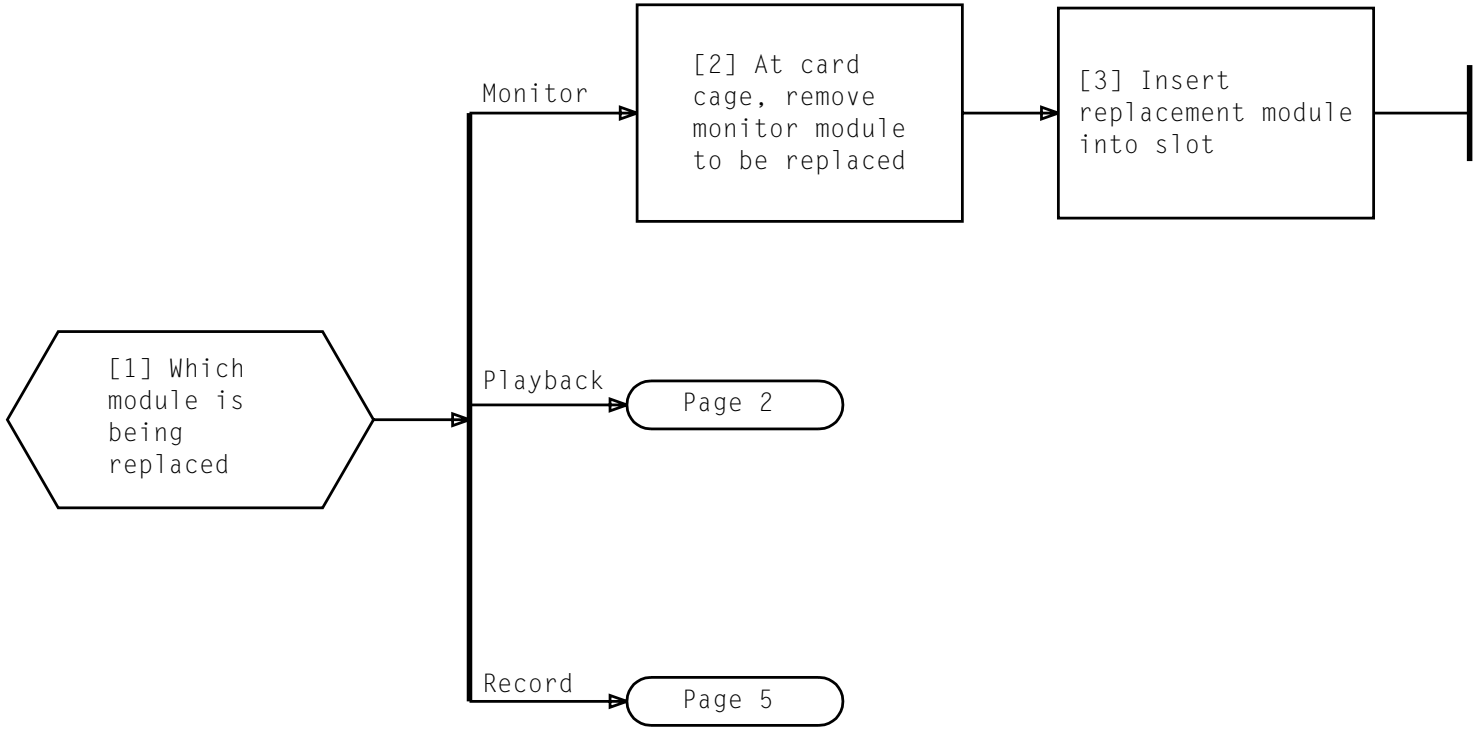


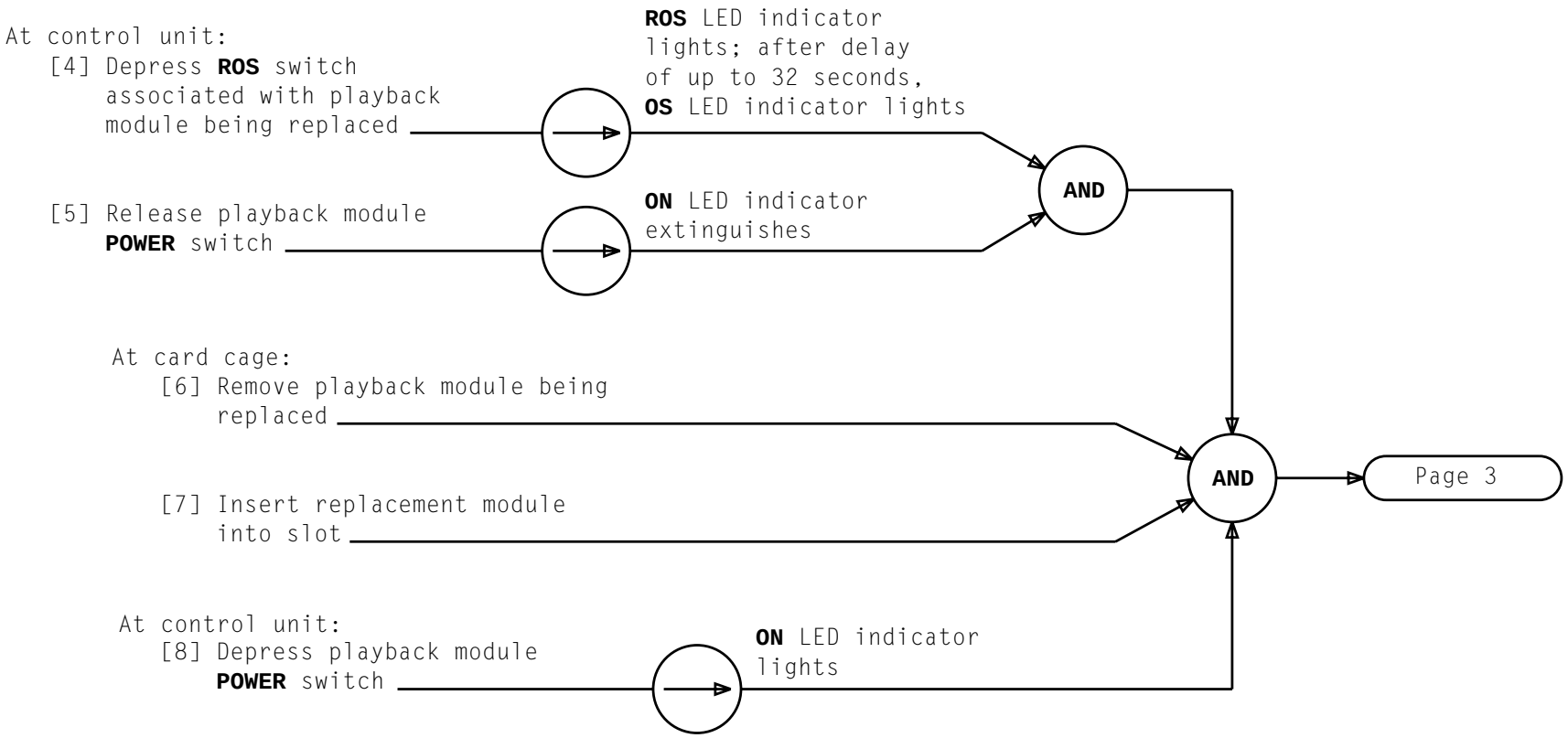
TABLE A

METHOD OF RECORDING	GO TO
Via Prerecorded Tapes	NTP-003
At Frame with Headset/Handset	NTP-004
At Dedicated Telephone	NTP-005

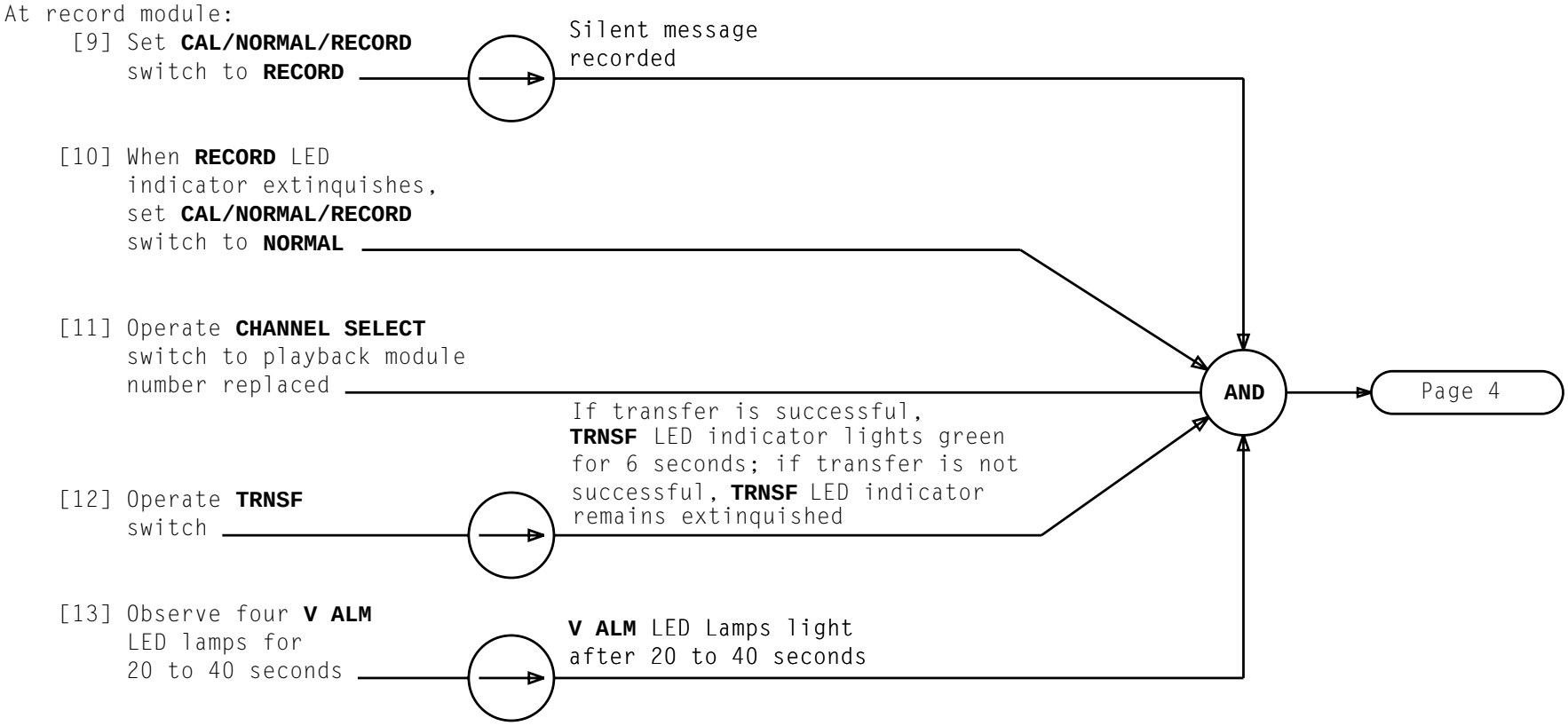
POWERING UP PAS FRAME



REPLACE PLAYBACK, RECORD, OR MONITOR MODULE



REPLACE PLAYBACK, RECORD, OR MONITOR MODULE



REPLACE PLAYBACK, RECORD, OR MONITOR MODULE

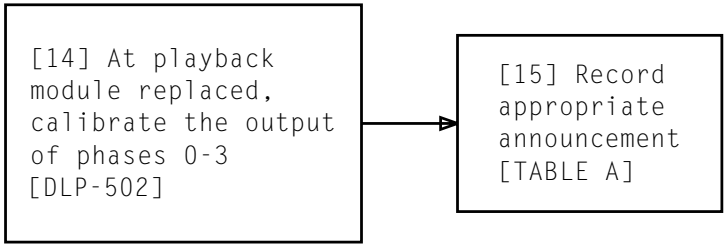
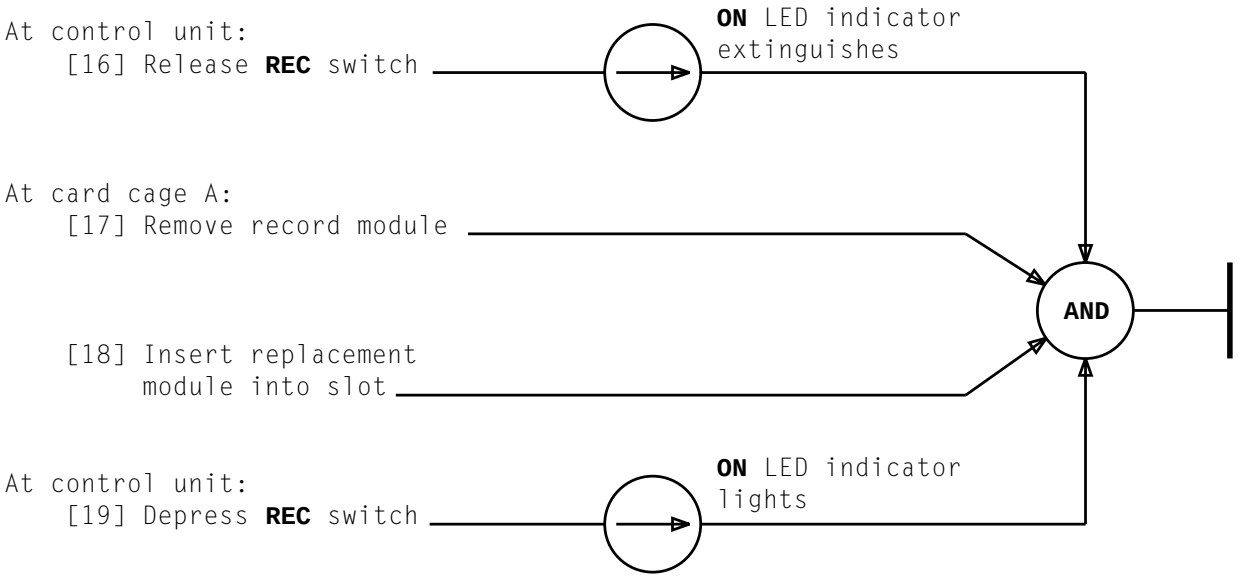
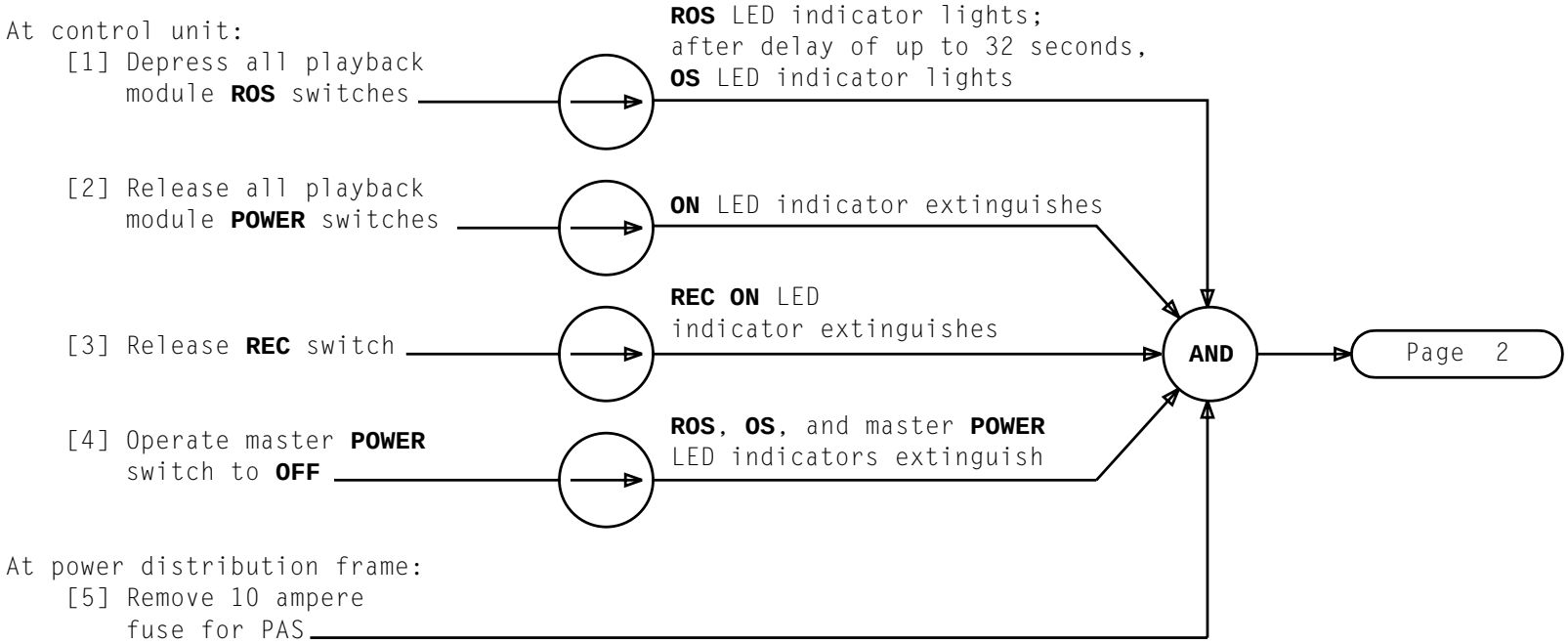


TABLE A

METHOD OF RECORDING	GO TO
Via Prerecorded Tapes	NTP-003
At Frame With Headset/Handset	NTP-004
At Dedicated Telephone	NTP-005



REPLACE PLAYBACK, RECORD, OR MONITOR MODULE



REPLACE CONTROL UNIT

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At rear of control unit:

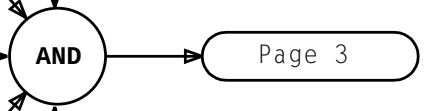
[6] At terminal block **TB1C**, measure voltage on terminals **–48** and **GND** to ensure no voltage is present

[7] Remove and tag leads connected to terminals **–48** and **GND**

[8] Disconnect and tag all other leads connected to terminal block **TB1C**

[9] Remove and tag two ribbon cables connected to connectors **J1C** and **J2C**

[10] Disconnect and tag three 25-pair cables connected to connectors **P3C**, **P4C,** and **P5C**



REPLACE CONTROL UNIT

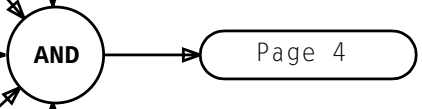
[11] Carefully remove eight screws securing control unit to frame and remove unit

[12] With eight screws, install replacement control unit in frame

[13] Reconnect three 25-pair cables to connectors **P3C**, **P4C**, and **P5C**

[14] Reconnect two ribbon cables to connectors **J1C** and **J2C**

[15] At terminal block **TB1C**, reconnect all leads



REPLACE CONTROL UNIT

[16] At control unit, make sure all **ROS** switches are down, **POWER** switches are released, **REC** switch is released, and master **POWER** is set to **OFF**

[17] At power distribution frame, charge filters with ITE 4715 and insert 10 ampere fuse for PAS

At control unit:

[18] Operate master **POWER** switch to **ON**

[19] At terminal block **TB1C**, measure power supply output voltages between test points and **COM** terminal [TABLE A]

Master **POWER**, **ROS**, and **OS** LED indicators light

Voltages read in range listed on TABLE A

AND

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No

TAP-104

TABLE A

VOLTAGE TEST POINTS	RANGE
+5.25	5.00 to 5.50
−5	−4.75 to −5.25
+12	11.5 to 12.5
−12	−11.5 to −12.5

REPLACE CONTROL UNIT

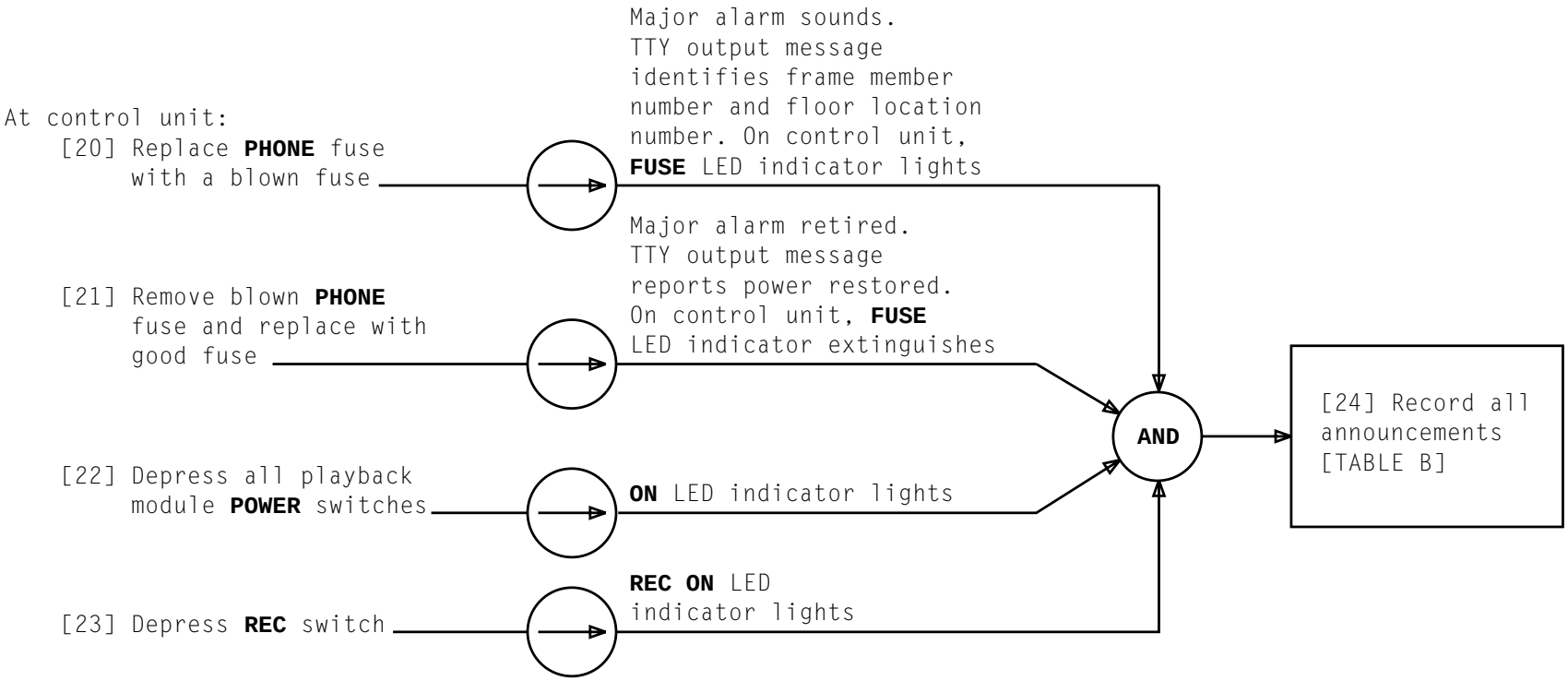
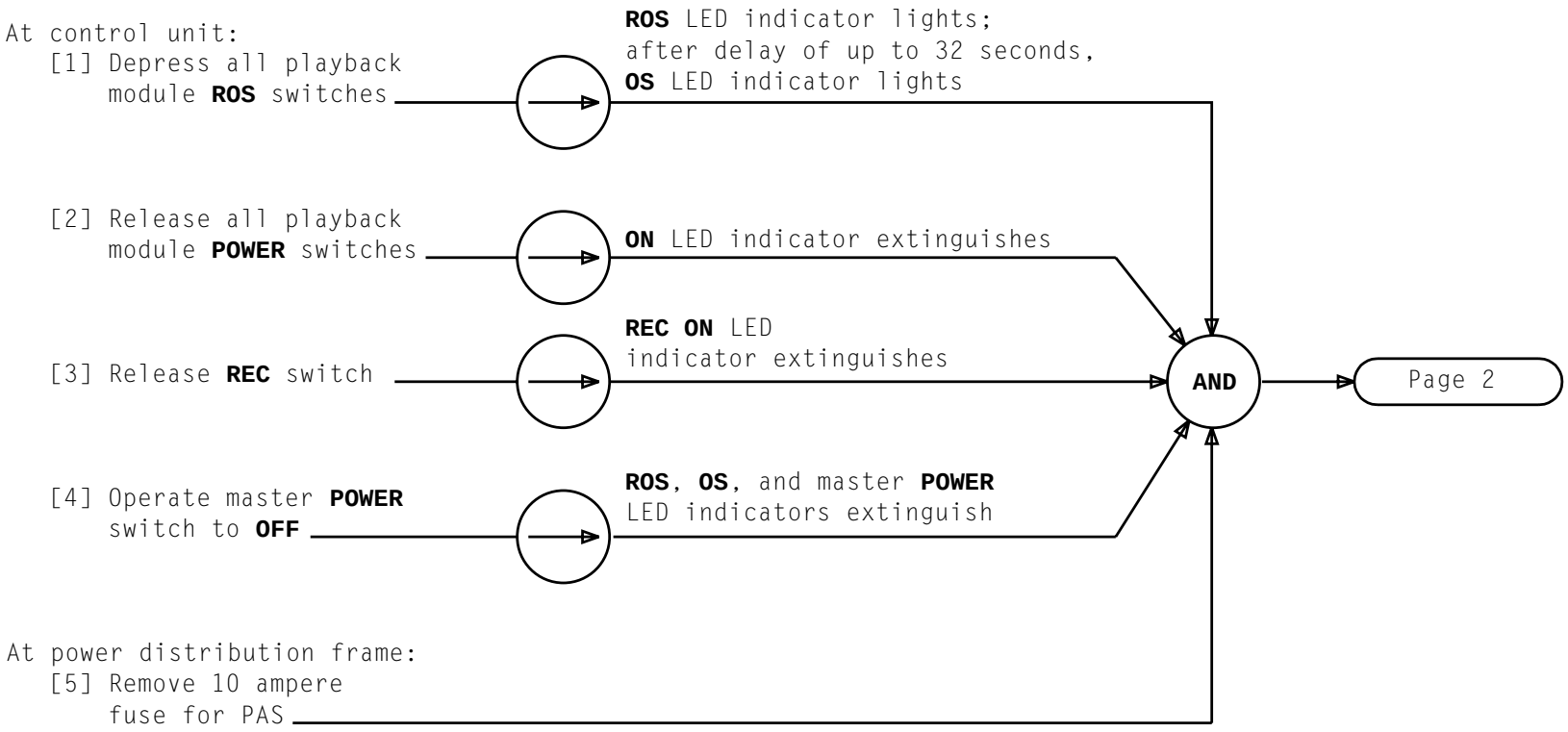


TABLE B	
METHOD OF RECORDING	**GO TO**
Via Prerecorded Tapes	NTP-003
At Frame with Headset/Handset	NTP-004
At Dedicated Telephone	NTP-005

REPLACE CONTROL UNIT



REPLACE PS1110A POWER SUPPLY

At rear of control unit:

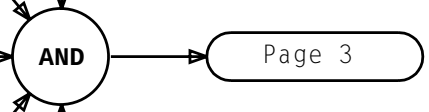
[6] At terminal block **TB1C**, measure voltage on terminals **–48** and **GND** to ensure no voltage is present

[7] Remove and tag leads connected to terminals **–48** and **GND**

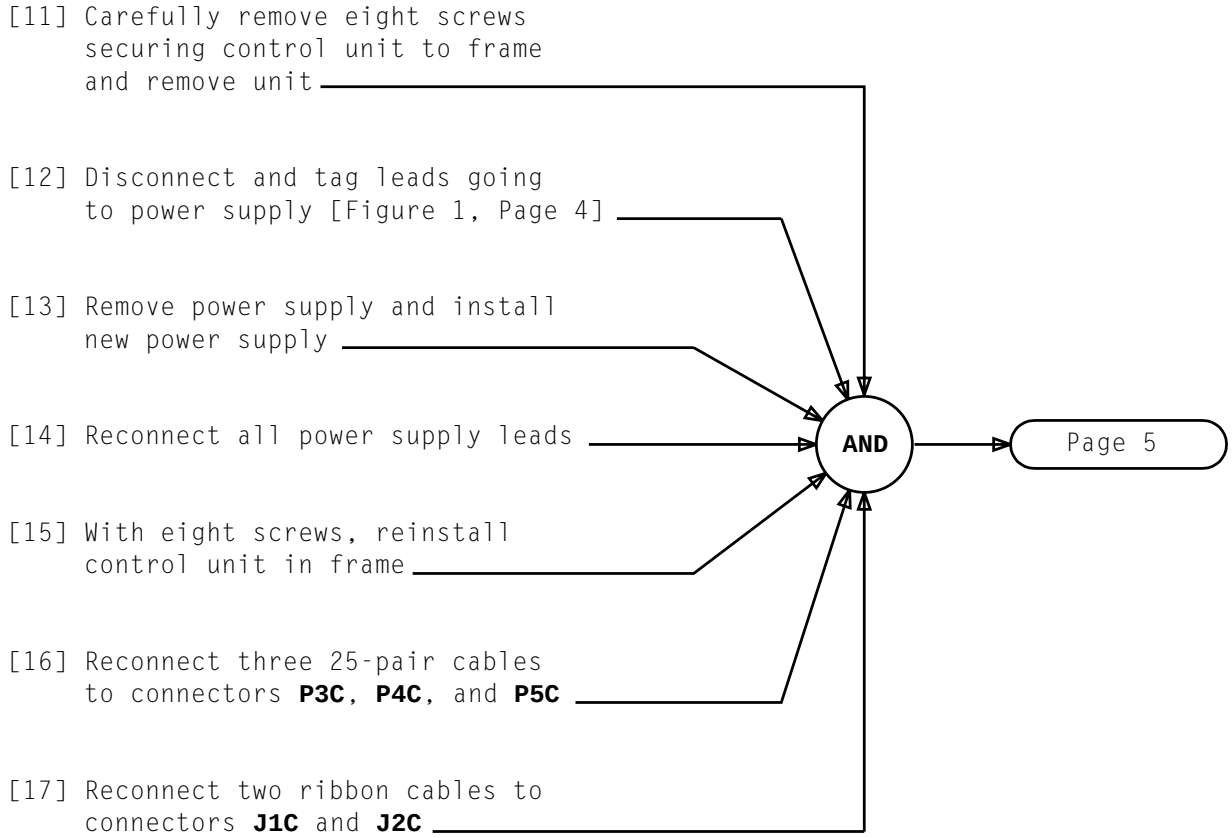
[8] Disconnect and tag all other leads connected to terminal block **TB1C**

[9] Remove and tag two ribbon cables connected to connectors **J1C** and **J2C**

[10] Disconnect and tag three 25-pair cables connected to connectors **P3C**, **P4C**, and **P5C**



REPLACE PS1110A POWER SUPPLY



REPLACE PS1110A POWER SUPPLY

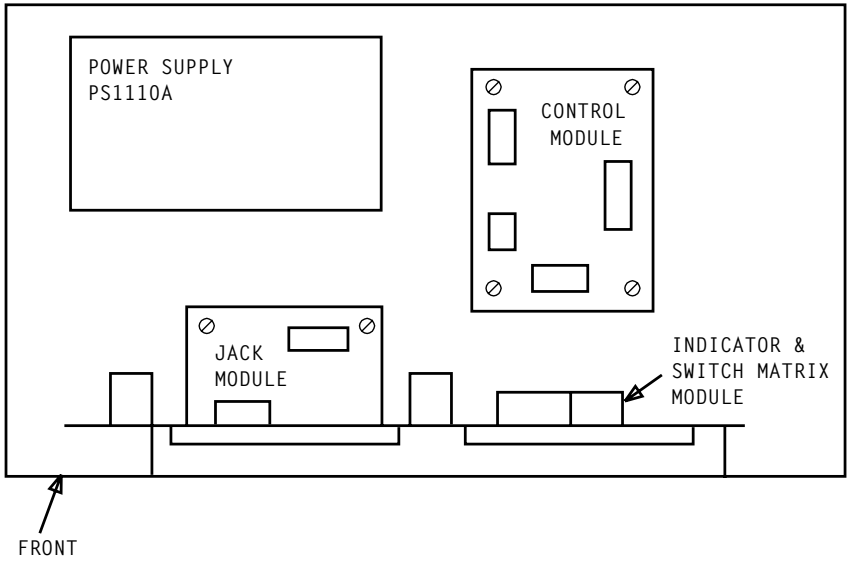


Figure 1 – Control Unit – Top View

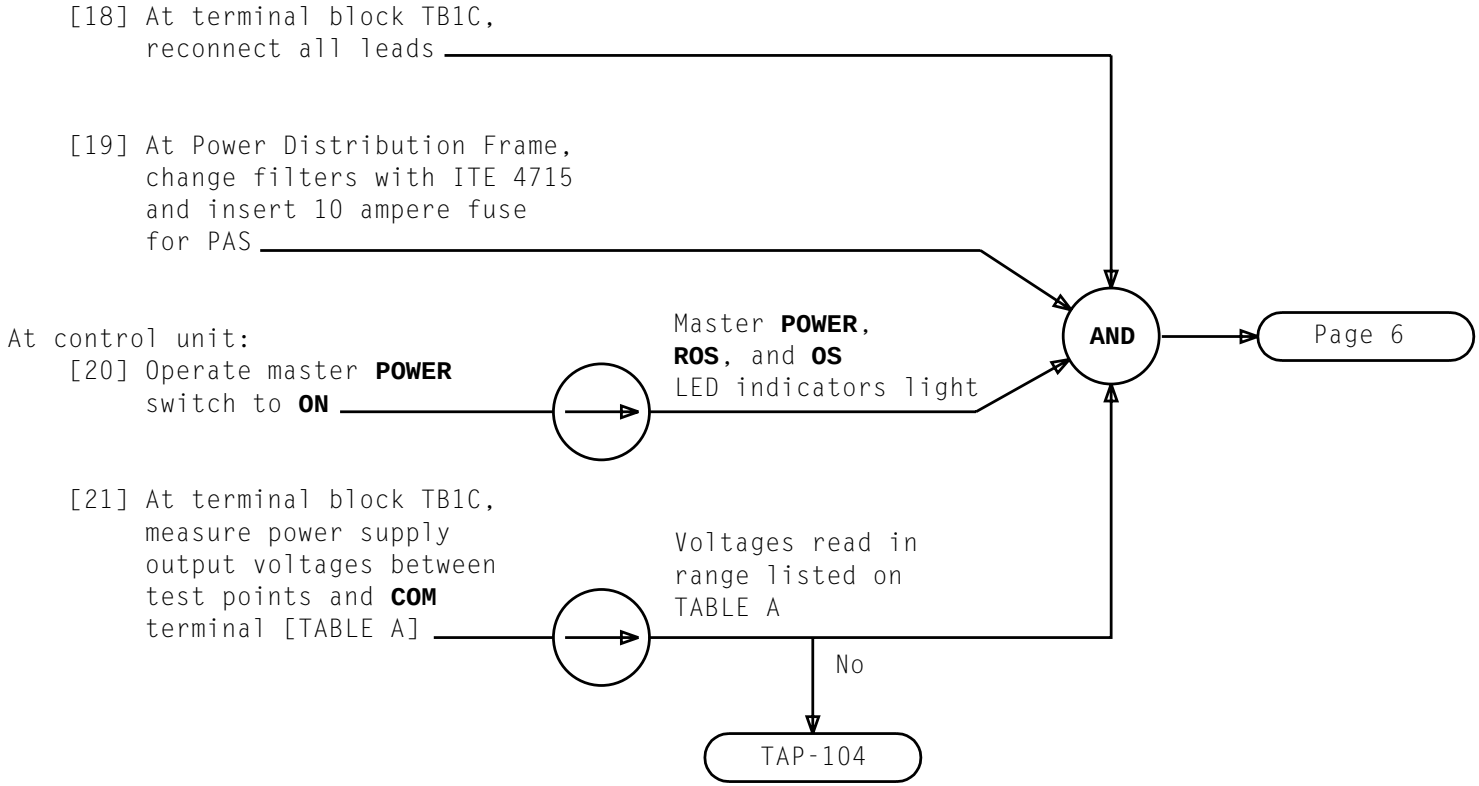


TABLE A	
VOLTAGE TEST POINTS	**RANGE**
+5.25	5.00 to 5.50
−5	−4.75 to −5.25
+12	11.5 to 12.5
−12	−11.5 to −12.5

REPLACE PS1110A POWER SUPPLY

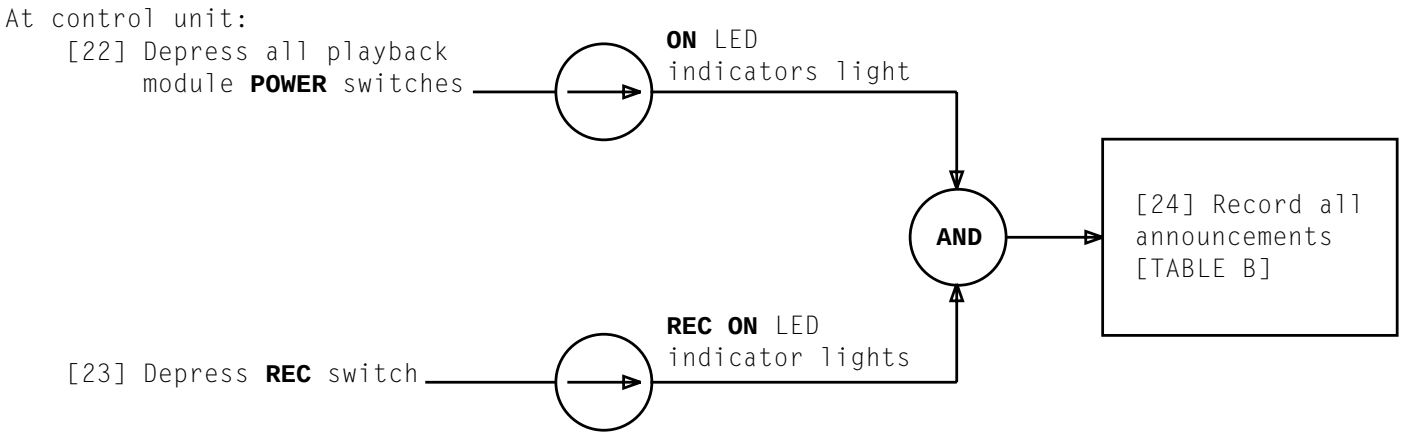
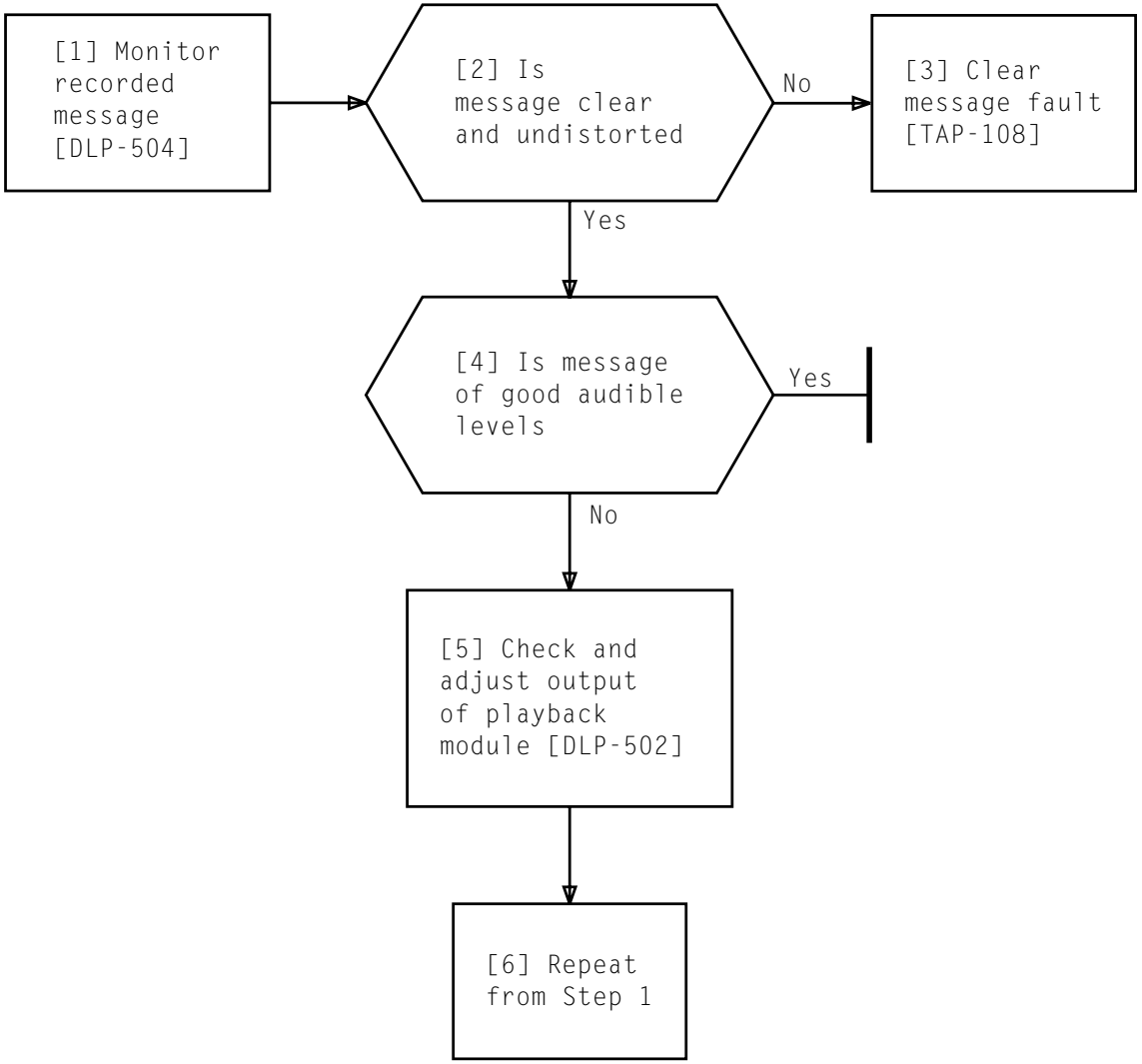
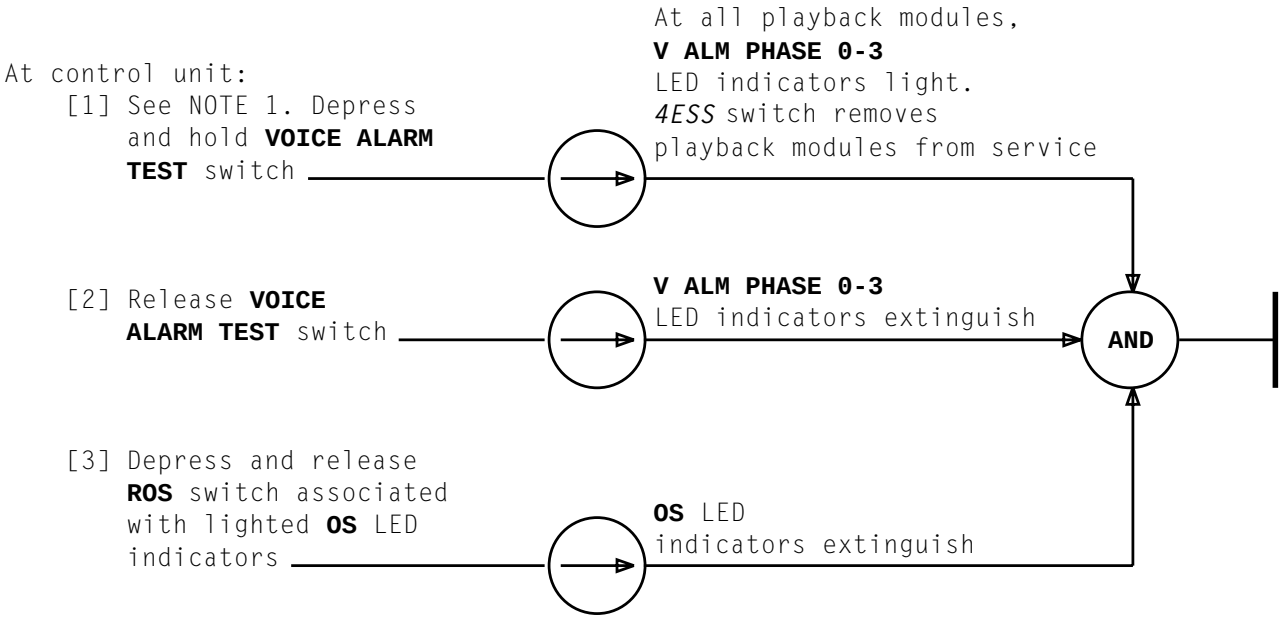


TABLE B	
METHOD OF RECORDING	**GO TO**
Via Prerecorded Tapes	NTP-003
At Frame with Headset/Handset	NTP-004
At Dedicated Telephone	NTP-005

REPLACE PS1110A POWER SUPPLY



CHECK RECORDED ANNOUNCEMENTS



TEST VOICE ALARM CIRCUIT

NOTE 1
This test places PAS out of service and should be performed during periods of low traffic

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ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE
IXL-001											
NTP-002											
• NTP-003											
NTP-004											
NTP-005											
TAD-100											
TAP-101											
TAP-102											
TAP-103											
TAP-104											
• TAP-105											
TAP-106											
TAP-107											
• TAP-108											
• TAP-109											
• DLP-500											
• DLP-501											
DLP-502											
DLP-503											
• DLP-504											
• DLP-505											
DLP-506											
DLP-507											
DLP-508											
• DLP-509											
DLP-510											
• DLP-511											
DLP-512											
DLP-513											
DLP-514											
DLP-515											
CKL-891											
TGN-893											

• REVISED OR ADDED ITEM ☐ CANCELED ITEM

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CHECKLIST

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