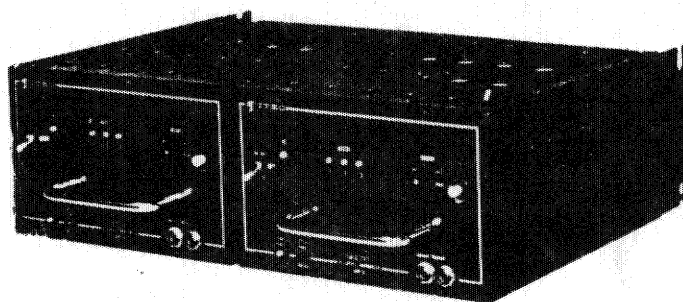


TECHNICAL INFORMATION

RECORDED ANNOUNCER

600156



Approved:

RL Weir

Issue	1	3-27-81
Issue	2	11-13-81
Issue	3	8-30-82

RECORDED ANNOUNCER

TABLE OF CONTENTS

SECTION		PAGE
I.	<u>INTRODUCTION</u>	
	1. General	1-1
	2. Design Features	1-1
	3. Warranty.	1-1
II.	<u>INSTALLATION</u>	
	1. General	2-1
	2. Specifications.	2-1
	3. Ordering Informaton	2-1
	4. Mechanical Mounting	2-3
	5. Electrical Connections.	2-3
	6. Internal Strapping.	2-7
III.	<u>OPERATING PROCEDURES</u>	
	1. Functional Description.	3-1
	2. Operation	3-3
	3. Functional Tests.	3-6

RECORDED ANNOUNCER

ILLUSTRATIONS

FIGURES

FIGURE		PAGE
1.	Connector Pins	2-4
2.	BY Relay Example	2-5
3.	Internal Layout.	2-6
4.	Logic Control Card Strapping	2-8
5.	Access Port CODEC Plug-On.	2-9
6.	Access Port Card	2-9
7.	Base Board Strapping	2-11
8.	Functional Diagram	3-2
9.	Front Panel Controls & Indicators.	3-3
10.	Record/Monitor Dual Plug	3-5

TABLES

TABLE		PAGE
1.	Specifications	2-1
2.	Ordering Configuration	2-2
3.	Part Number Index.	2-2
4.	Interconnect Definition.	2-3
5.	Internal Strapping and Adjustments	2-8
6.	Front Panel Controls and Indicators.	3-4
7.	Troubleshooting Guide.	3-7

RECORDED ANNOUNCER

SECTION I - INTRODUCTION

1. GENERAL

1.01 The ITEC Recorded Announcer is a solid state announcer which uses solid-state memory and digital voice synthesizing. The unit can directly replace most existing makes of tape and drum type announcers.

2. DESIGN FEATURES

2.01 The Recorded Announcer features a single channel playback with a maximum of three separate simultaneous accesses. The clear, lownoise audio does not deteriorate with time or numerous playbacks. There are no moving parts and all cards are plug-in as is the unit itself.

2.02 The Memory may be expanded to a maximum of four Memory Cards. An internal battery protects the recorded message stored in memory during power interruptions.

2.03 The Recorded Announcer may be equipped with a maximum of three simultaneous Access Ports with no waiting or barge-in. Strapping options allow many different operating conditions.

2.04 A "Busy" relay is included on each Access Port for unique installation appliques. The BY relay may be configured for various signals and timing that may be required for interfacing to other equipment in a particular installation.

2.05 Message recording can be accomplish on site using a standard handset or pre-recorded tape. Upon playback, the recording resets and is immediately available for the next playback.

2.06 The Recorded Announcer is expandable in the field by adding additional Access Ports and/or Memory.

2.07 Special Information Tone (SIT) may be accomodated using a cassette/tape player as specified in AT&T Technical Advisory #33.

3. WARRANTY

3.01 ITEC, Inc. unconditionally warrants these units to be free of defects in material or workmanship for five years from date of shipment. Any units found defective during the first year will be repaired or replaced at no charge when returned prepaid to our Huntsville facility. During the remaining four years of the warranty, a handling fee will be charged for this service. Any abuse or improper installation will void this warranty.

3.02 A Return Material Authorization (RMA) must be obtained from the Customer Service Department (205-881-5759) prior to shipping. The following information should be included with the shipment:

1. RMA Number
2. Return shipping address
3. Contact name and telephone
4. Specific failure or trouble

Ship via UPS or Parcel Post to:
ITEC, Inc.
P.O. Box 4147
520 Green Cove Road
Huntsville, Alabama 35803

Adherence to this procedure will facilitate the prompt repair and return of your material.

RECEIVED

TELEPHONE COLLECTORS

TO: [illegible]
FROM: [illegible]
SUBJECT: [illegible]
[illegible text follows]

[illegible text follows]

[illegible text follows]

[illegible text follows]

[illegible text follows]

RECORDED ANNOUNCER

SECTION II - INSTALLATION

1. GENERAL

1.01 This section contains detailed instructions for the installation and basic operation of the ITEC Recorded Announcer. A minimum installation consists of a card cage, Recorded Announcer, and a handset or tape player.

2. SPECIFICATIONS

2.01 The ITEC Recorded Announcer specifications are listed in TABLE 1.

3. ORDERING INFORMATION

3.01 The Recorded Announcer Basic Unit #600156 consists of a chassis, back-up battery, and all plug-in cards except the memory and Access Ports. The Memory and Access Port Cards are shipped installed in the Basic unit as designated by the dash numbers indicated in TABLE 2.

3.02 A Card Cage #500047 is required for the initial installation. Each Card Cage can hold two Recorded Announcers.

3.03 Optional or replacement items are listed in TABLE 3.

TABLE 1. SPECIFICATIONS

SPECIFICATION	DESCRIPTION	
FUNCTIONAL:		
Recorded Length	8 to 64 seconds total 8 to 16 seconds per memory card	
Output Impedance	Less than 5 ohms	
Output Level	-16 dBm to +3dBm (@ 600 ohm load)	
Output Loads	(900 ohm) 20 maximum loads	
Humidity	20% to 90%	
(non condensing)		
Temperature	10° to 120° F. ambient	
ELECTRICAL:		
Voltage	-44 to -56 Vdc	
Idle Current	120 ma (maximum configuration)	
Busy Current	500 ma (maximum configuration)	
MECHANICAL:	Card Cage	Announcer
Height	5.25"	5.25"
Width	19"	8.25"
Depth	13"	13"
Weight	10 lb.	7 lb.

TABLE 2. ORDERING CONFIGURATION

DASH NUMBER CONFIGURATION 600156-xx-yy	# PLUG-IN BOARDS			
	1	2	3	4
(-xx) MEMORY	-11	-12	-13	-14
(-yy) ACCESS PORTS	-21	-22	-23	n/a

EXAMPLE: 600156-12-23

TABLE 3. PART NUMBER INDEX

PART #	DESCRIPTION
100015	DUAL PLUG
260012	BATTERY
100013	HANDSET
500103-1	ADAPTER PLATE KIT: (Consists of) 2 ea. 290056-000000 Adapter Plates 4 ea. 297000-122412 Screw, PH, 12-24x3/4" 4 ea. 297200-122400 Nut, Hex, 12-24 4 ea. 297302-120000 Lockwasher, Split, #12
500255	ACCESS PORT CODEC PLUG-ON
500256	MEMORY CARD
500257	ACCESS PORT CARD
500258	LOGIC CARD
500259	POWER SUPPLY CARD
500260	LED/SWITCH CARD
500261	RECORD AMP CARD
600156	BASE ASSEMBLY

4. MECHANICAL MOUNTING

4.01 The Recorded Announcer is designed to slide into either the left or right half of its card cage. The card cage requires three (3) mounting spaces (5.25") of a 19" relay rack. An Adapter Plate Kit (#500103-1) may be ordered to allow adapting the card cage to 23" rack. The Unit should be gently positioned in the card cage until resistance is felt. A firm push will then seat the Unit securely in the backplane connector. If hard resistance or binding is felt, remove the unit and check for proper alignment of the connector and card edge. Removal of the unit is accomplished by pulling gently until the card edge demates from the backplane connector.

4.02 The Recorded Announcer, being solid state with integrated circuits, will perform

best at temperatures below 43°C (110°F). Should the Unit be mounted in an area where air would not circulate easily, or if installed above other equipment which generates excessive heat, it will require additional ventilation. The air should be vented from the rear of the unit up through the top of the card cage.

5. ELECTRICAL CONNECTIONS

5.01 Connections to the Recorded Announcer are made via the backplane connector. This connector is an integral part of the Card Cage and should remain fastened to the card cage at all times. The connector has wire wrap pins for all connections. Refer to Figure 1 for all cable connections. TABLE 4 defines each connection.

5.02 BATT and GND connections are to be a minimum of #22 gauge wire.

TABLE 4. INTERCONNECT DEFINITION

CONNECTION	SPECIFICATIONS
Record/Monitor Tip	Transformer primary with 800 ohm series resistor. A 15 to 20 ma current source is applied with select switch in Handset mode.
Record/Monitor Sleeve	Transformer secondary with 900 ohms impedance.
Tip & Ring Out	Transformer Secondary with 80 ohm paralleling Resistor (less than 5 ohm impedance)
BY Relay	Two sets "C" contacts rated: 1A. @48Vdc (3 million life) 2A. @28Vdc (500K life) 100-200 milliohms contact resistance
Start	3K ohm to BATT Minimum 26Vdc (7 ma) to Start
Off Line	Relay Contact to GND (1A. @ 48Vdc max)
Normal	Relay Contact to GND (1A. @ 48 Vdc max)

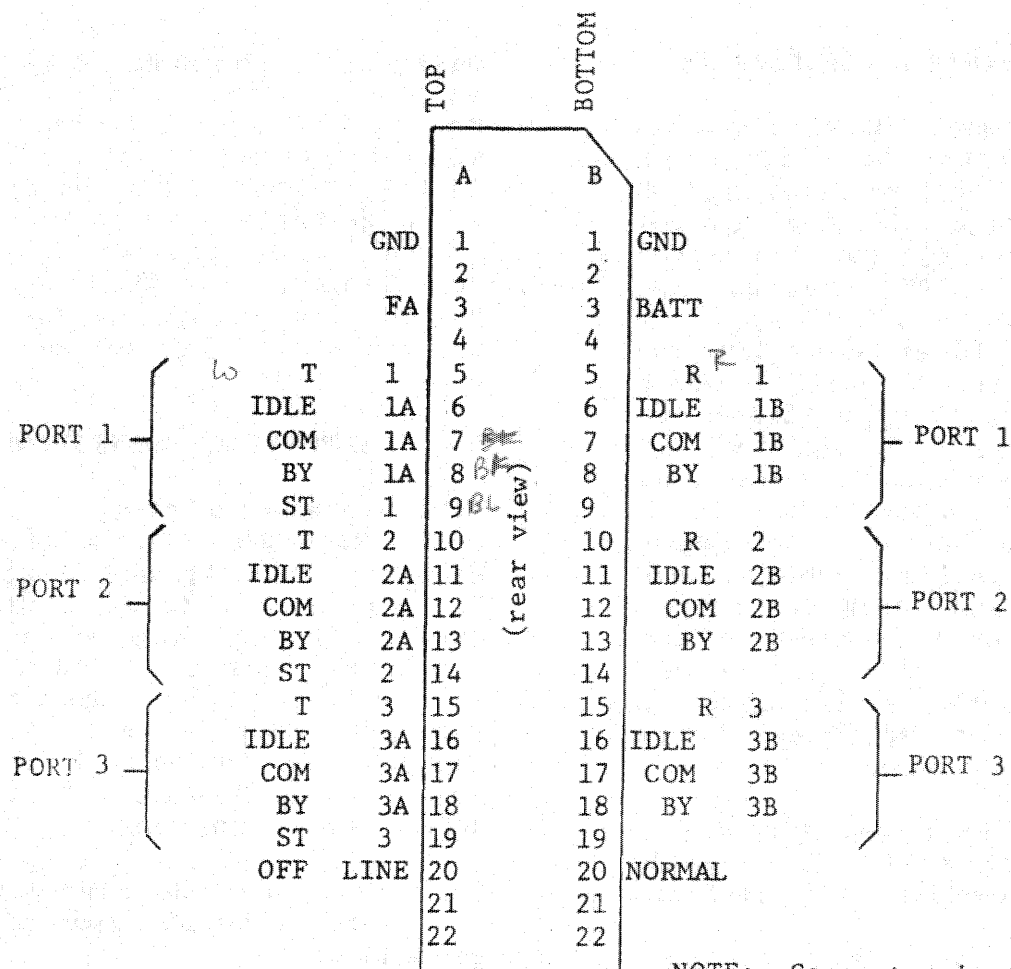


Figure 1. Connector Pins

5.03 The battery has been disconnected for shipment. Reconnect by plugging the battery connector onto the power supply. The plug may be inserted either way onto the three pin connector, however, ensure all three pins are mated correctly to prevent shorting the battery or damage to the power supply (Figure 3).

The Recorded Announcer is shipped from the factory with the battery fully charged, however at the time of installation the battery may have leaked down. The battery

must be allowed to trickle charge back to a usable level (24 hours preferably) before putting the Announcer into service or attempting a recording. The battery will be trickle charging anytime the chassis is plugged into a card cage wired with office power. The battery and power supply card are the only components necessary for charging. Failure to allow the battery to trickle charge back to capacity could result in poor audio quality and degraded overall performance.

5.04 BY relay operation is provided to accomodate unique signal and timing requirements in your specific installation. The two sets of BY relay contacts for each Access Port Card are brought to the backplane edge connector. This allows for maximum flexibility in interfacing to various equipment such as providing idle battery or ground, busy battery or grounds, continuity between points, etc. All of these signals are controlled by the idle or busy condition of the individual access ports. ITEC Customer Service can also suggest various interfacing techniques to fit individual requirements.

The amount of time necessary for the BY relay to operate after a START signal is received is dependent on the sec/mem strap. Absolute minimum is 250 ms. For 8 sec/mem, the maximum time is 750 ms. Operation may occur anywhere within this time frame, 250 to 750 ms. For a 12 sec/mem the time frame is 250 ms to one second. For 16 sec/mem the time is 250 ms to 1.25 seconds.

Consult ITEC Customer Service for special application information requiring timing changes necessary to facilitate interfacing. This circuit can be easily modified to accomodate almost any requirement.

The following interfacing example instructs the preceding equipment that the recorder is not available for access when the recorder is not in the ON LINE mode. A ground signal is sent via the OFF LINE pin. When the recorder is available for accessing, no potential is present. When the recorder is accessed, a ground is then applied to the com 1A line via the normal output. This is only one of many options and variations available.

1. Attach jumper from off line to Idle 1A.
2. Attach jumper from normal to BY 1A.
3. Attach Com 1A to the "recorder busy" input of the preceding equipment.

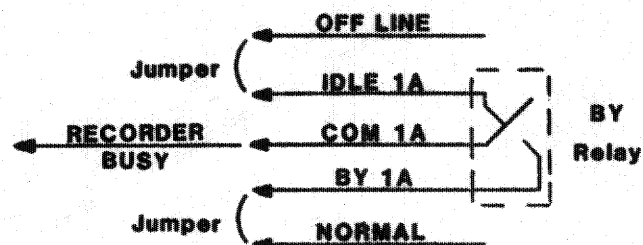


Figure 2. BY Relay Example

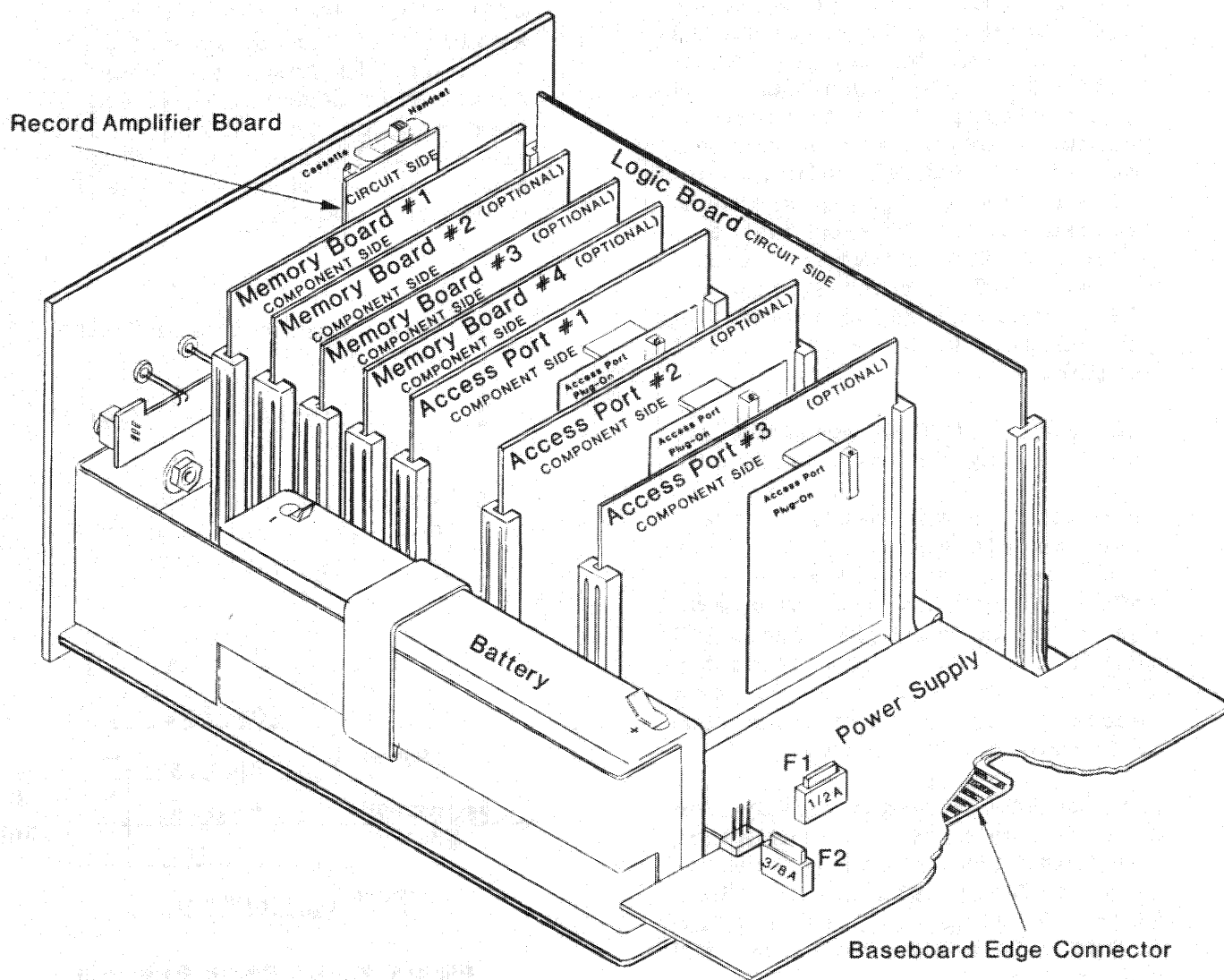


Figure 3. Internal Layout

6. INTERNAL STRAPPING

6.01 The Recorded Announcer has a total of six strapping options, a select switch, and three variable adjustments. The options are listed in TABLE 5 and are further defined below.

6.02 The Logic Control Card has a memory strap and two timing strap options. Only one strap is allowed on each set of option posts. The TP posts are not strapping posts but are test points only.

- a) The Memory strap must match the number of Memory Cards in use. It is shipped from the factory strapped for the number of Memory Cards shipped with that Unit. Refer to Figure 4.
- b) The Seconds/Memory Strap controls the memory sample rate and may be set for a message length of 8 to 16 seconds per Memory Card in one second increments. Audio fidelity is best with the shortest memory sample rate. The Seconds/Memory Strap should be set for a message length slightly greater than the message intended to be recorded. Refer to Figure 4. The strap is selected at the factory for 12 seconds per Memory Card.
- c) The Filter Strap controls the high frequency "roll-off" of the audio playback and may be restrapped at any time for the best sound quality of a particular voice recording. Refer to Figure 4. The Filter strap is set at the factory to mid-position.

6.03 The Access Port Card has two strapping options and a variable gain control: (Refer to Figures 5 and 6.)

- a) Strap MA 1 to 2 allows for playback as long as the ST (Start) lead is held grounded. When the ground is released, the message immediately resets. This strap allows for a 50 milli second ground to access one playback and automatically reset at the end of message.
- b) Strap MA 3 to 4 allows for continuous replay as long as the ST (Start) lead is held grounded. When this strap is omitted one playback, then automatic reset occurs. The BY relay releases and reenergizes at the end of each recording.
- c) All MA straps are shipped open unless otherwise specified in the customer order.
- d) R1 is a fifteen turn potentiometer which adjusts audio output gain. Clockwise increases gain, however, gain may be increased to the point of overdriving the output amp resulting in distortion. Refer to Figure 5. The adjust is preset at the factory for maximum volume without distortion. The gain adjust may need readjusting for each installation.

TABLE 5. INTERNAL STRAPPING AND ADJUSTMENTS

NAME	LOCATION	FUNCTION	SETTINGS
Cassette/ Handset Switch	Record Amp	Front Panel Record/ Monitor input	Cassette: Transformer primary Handset: Primary with voltage applied
Memory Strap	Logic Control	#Memory Cards	1-2-3-4 Memory Cards
Seconds/ Memory Strap	Logic Control	Maximum Message Length	8 to 16 sec. per Memory Card in 1 sec. incre- ments
Filter Strap	Logic Control	Tone Control	Best sound quality
MA 3-4 Strap	Access Port	Continuous Replay	Single playback or continuous replay.
MA 1-2 Strap	Access Port	Continuous Ground Start	Momentary or continuous ground start.
RI Adjust	Access Port Plug-on	Gain adjust	Audio output gain
"OS" Strap	Base Board	BY Relay "OS"	BY relay operates in OS or Record Mode.
RI3 Adjust	Record AMP	Record Gain Adjust	Factory set - Peak lite flashes during record- ing
RI7 Adjust	Power Supply	Voltage Adjust	Factory set - 13.65 volts

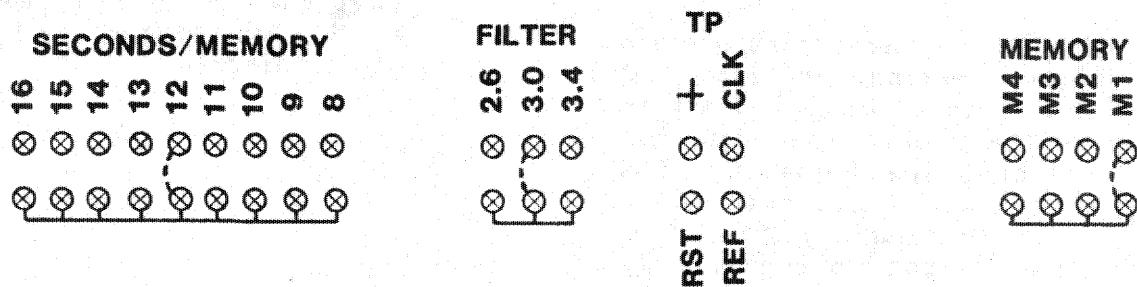
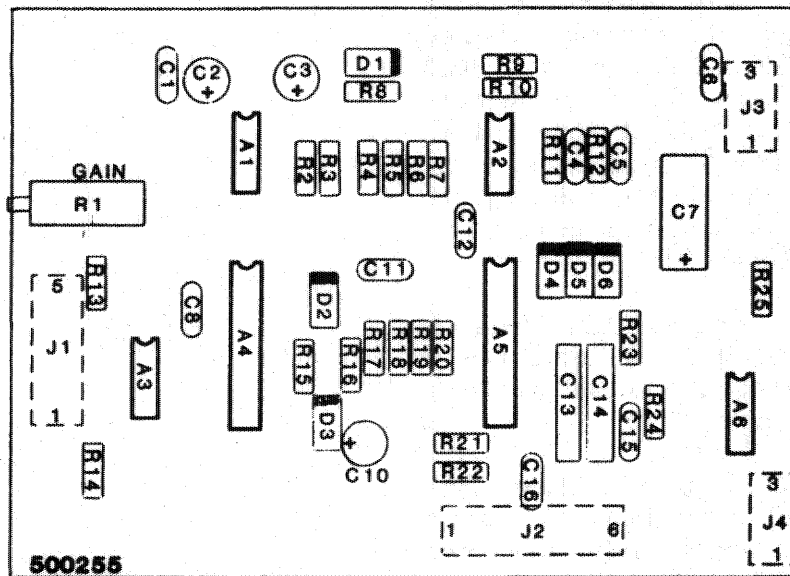


Figure 4. Logic Control Card Strapping



(Supplied as part of 500257)

Figure 5. Access Port CODEC Plug-On

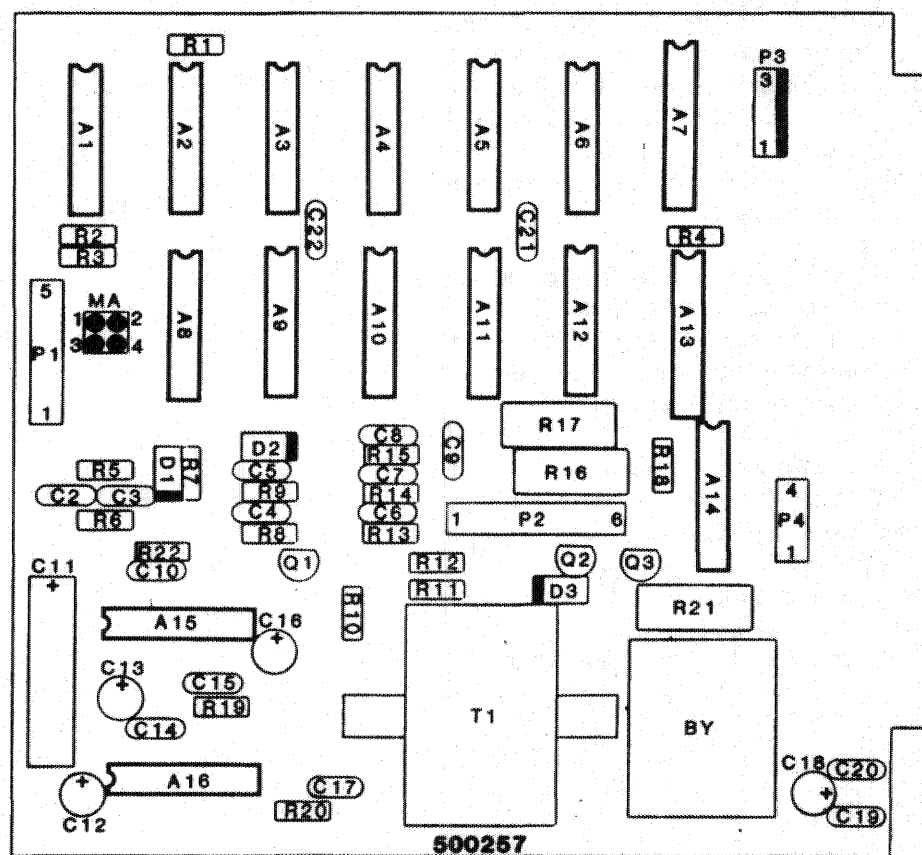


Figure 6. Access Port Card

6.04 The Base Board has a strapping option labeled "OS". Refer to Figure 7. "OS" causes the BY relays to operate when the front panel Mode switch is not in the On Line mode. The unit is shipped from the factory with "OS" strap omitted unless otherwise requested.

6.05 The Record Amp has a record gain adjust and a cassette/handset slide switch: (Refer to Figure 3.)

- a) The record gain adjust (R1) may need adjusting to match various level input devices. The gain adjust should be set for intermittent flashing of the PEAK LED during recording.
- b) The slide switch allows either a cassette or handset to be connected to the front panel Record/Monitor jacks. In the handset position, voltage is applied to the front panel jacks to power the mic element.

NOTE: When recording from cassette, ensure the switch is in cassette position, as damage to the cassette player could result.

6.06 The Power Supply Card (Issue 6 and later) has a factory set voltage adjust (R17) set for 13.65 volts. This potentiometer should never need resetting unless associated circuit components are replaced.

os strap

USED FOR SPECIAL APPLICATIONS TO OPERATE THE "BY" RELAY ON ALL ACCESS PORTS WHEN THE SYSTEM IS PLACED IN THE "OS" OR "RECORD" MODE. THIS OPENS THE EDGE CONNECTOR "IDLE" LEADS AND CLOSSES THE "BY" LEADS.

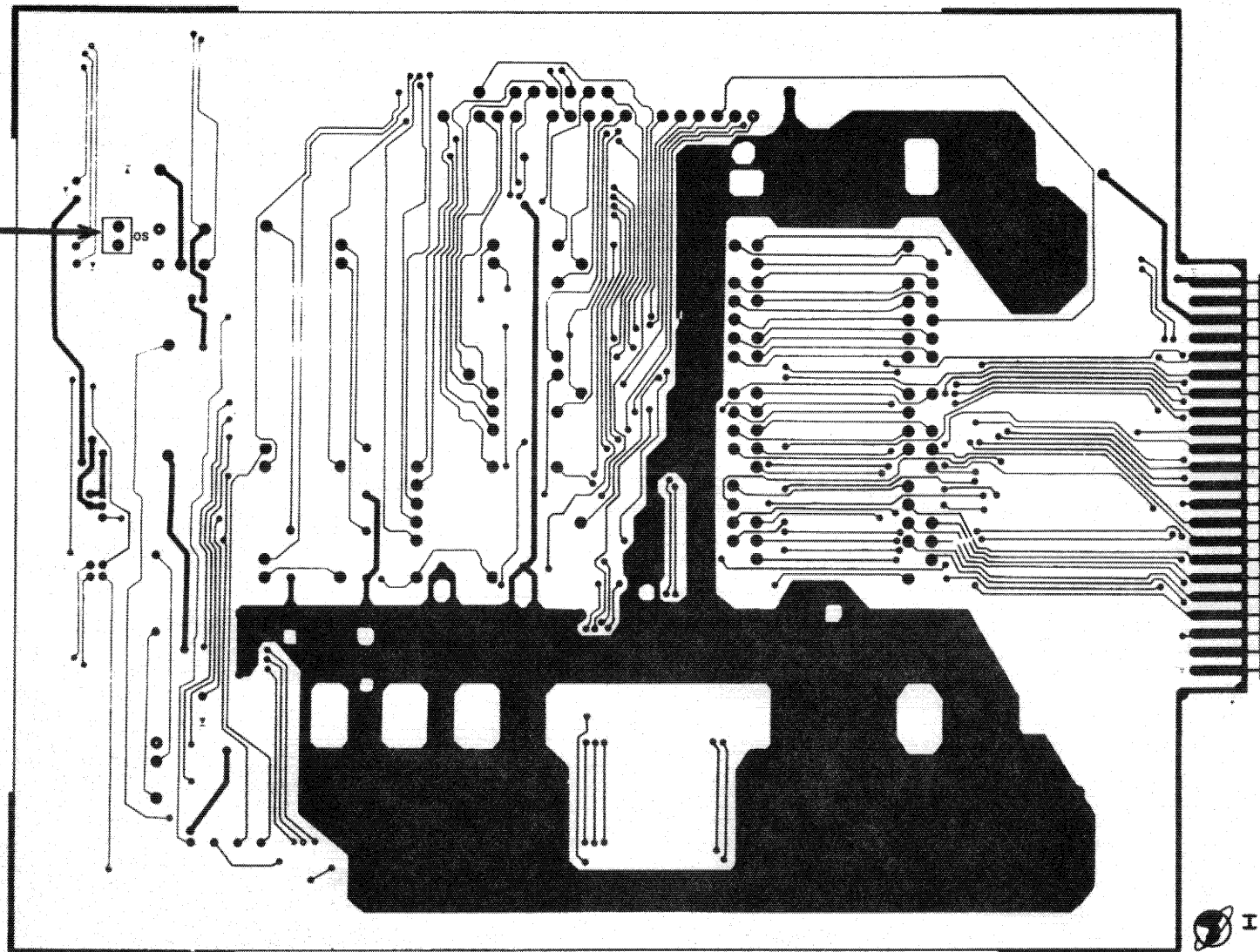


Figure 7.

2-11



RECORDED ANNOUNCER
BASE BOARD
STRAPPING & OPTION LOCATIONS
600156
ISSUE: 1 3-16-81

RECORDED ANNOUNCER

SECTION III - OPERATING PROCEDURES

1. FUNCTIONAL DESCRIPTION

1.01 The Recorded Announcer consists of six major card assemblies:

a) Base Board	600156
b) Record Amplifier	500261
c) Access Port	500257
d) Logic Control	500258
e) Memory	500256
f) Power Supply	500259

Each unit may be configured with a maximum of three Access Port cards and four Memory cards. Refer to Figure 8 for a functional diagram and Figure 3 for the physical layout.

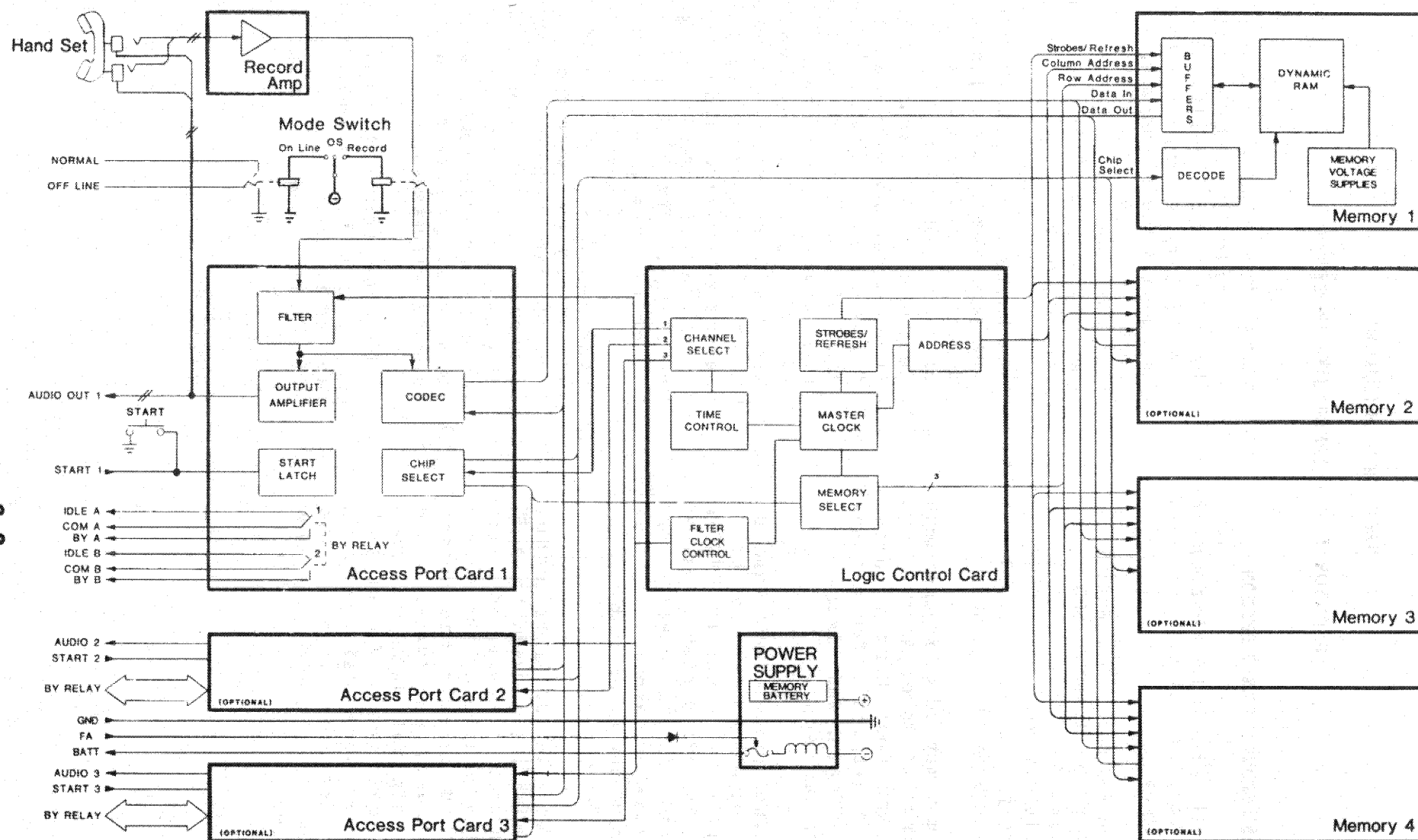
1.02 The Access Port Card #1 converts voice to a digital bit stream in RECORD mode. The bit stream is stored in dynamic random access memory at a rate determined by the Seconds/Memory strap on the Logic Control Card.

1.03 In the On Line mode, applying a ground to an ST lead latches the Access Port Card to begin playback. The Access Port Card selects the memory sequentially and converts the stored digital data to audio voice patterns. An output amplifier with gain control buffers the audio voice to the Tip and Ring leads on the connector.

1.04 The Memory is protected from power interruptions by a leak proof gelled electrolyte float battery. The battery can retain the stored message for more than 24 hours, after which a low voltage cut-out turns the battery off, protecting it from a deep discharge.

The battery has a shelf life of one year and an operational life dependent on the number and depth of charges and discharges. The Recorded Announcer is shipped from the factory with the battery fully charged, however at the time of installation the battery may have leaked down. The battery must be allowed to trickle charge back to a usable level (24 hours preferably) before putting the Announcer into service or attempting a recording. The battery will be trickle charging anytime the chassis is plugged into a card cage wired with office power. The battery and power supply card are the only components necessary for charging. Failure to allow the battery to trickle charge back to capacity could result in poor audio quality and degraded overall performance.

1.05 The Logic Control Card provides the master timing and addressing for the Memory. The Filter strap is connected to each Access Port's filter circuitry to provide roll-off control of the audio high frequency.



RECORDED ANNOUNCER FUNCTIONAL DIAGRAM

Figure 8.

2. OPERATION

2.01 The front panel controls and indicators are shown in Figure 9. Their functions are listed in TABLE 6. The dual plug) ITEC part #100015) is shown in Figure 10. A patch cord must be fabricated locally using this plug or similar for connecting a cassette player to the Recorded Announcer.

2.02 To Record a Message:

Note: Ensure Handset/Cassette slide switch on Record Amplifier Board is in proper position before attempting a recording. (Refer to Figure 3).

CAUTION

A cassette player or other playback device could possibly be damaged with the switch in Handset position as voltage will be present on the front panel Record/Monitor jack tips.

- a) Attach handset or cassette player to front panel Record/Monitor jacks.
- b) Mode Switch - Record position
- c) Start Switch - Press and hold
- d) Handset:
Speak clearly into handset - Peak Lite should flash while speaking.

Cassette:

Begin playback, adjust output level so peak lite flashes intermittantly.

- e) Start Switch - Release at end of message.

Note: Most cassette players will have the speaker disconnected when using the aux audio out or earphone output. The message may be timed to decide when to release the start switch.

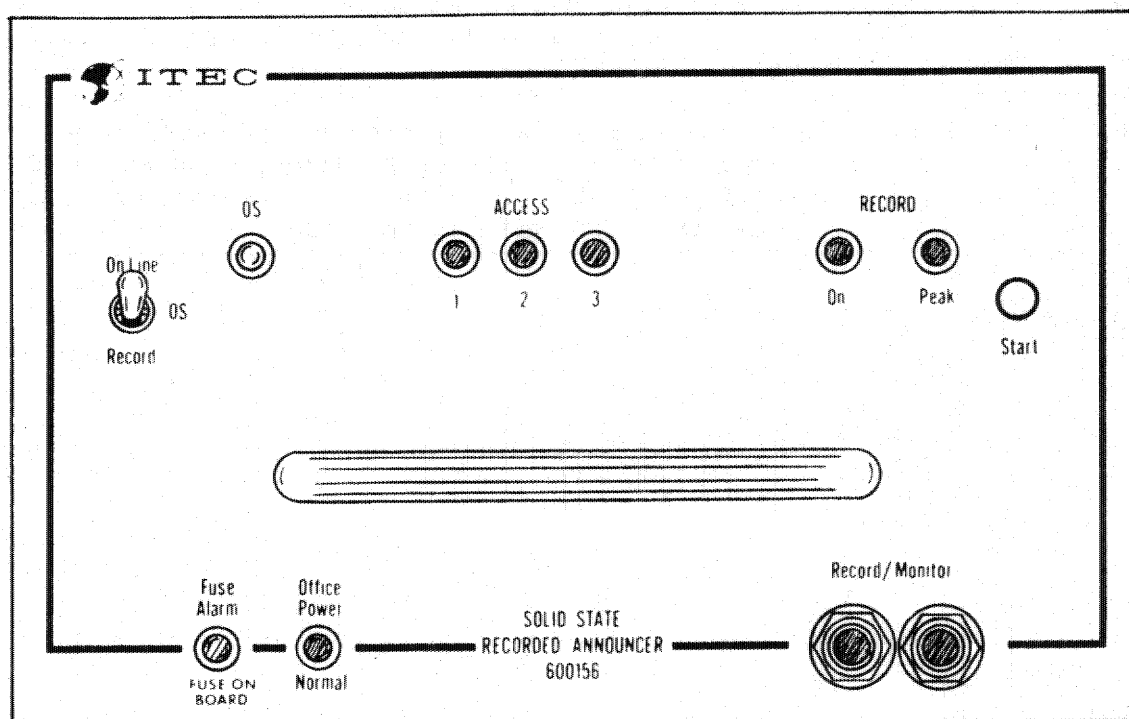


Figure 9. Front Panel Controls & Indicators

TABLE 6. FRONT PANEL CONTROLS AND INDICATORS

NAME	FUNCTION
Mode Switch (On Line/OS/Record)	Three position locking toggle switch. a) On Line allows automatic start of announcement. b) OS inhibits automatic start to Access Port 1 and gives off line signal to accessing circuits. c) Record allows new recording to be entered into memory. NOTE: Switch handle must be pulled out while changing position.
START Switch	Momentary push button. a) In RECORD Mode, the START switch is held in for the duration of the new recording. b) In ON LINE and OS Modes, momentary depression of the START switch accesses Port 1 playback.
OS Lite	Out of Service indication.
ACCESS Lites	Indicates which Access Ports are in use.
PEAK Lite	Indicates maximum modulation is being attained during recording. Lite should momentarily flash during recording.
FUSE ALARM Lite	Indicates F1 or F2 fuse is open.
OFFICE POWER Lite	Indicates office power is available. Recorded Announcer will operate normally. Lack of office power (lite off) reverts the Unit to Out of Service mode.
RECORD/MONITOR Jacks	Accepts Standard dual tip-sleeve plugs with independent sleeves for carbon telephone handset receiver or cassette input. Handset mic or cassette output to the Announcer connects to the tips.

2.03 To record a message using Special Information Tones (SIT), a cassette player must be used. Refer to AT&T Technical Advisory #33 for information on SIT, the cassette player specifications, and pre-recorded SIT tapes. A "mix-down" tape should be made with the proper SIT tones at the beginning and the message inserted after the tones. This tape can then be used to record into the Recorded Announcer. There is no practical way of intermixing cassette and handset inputs for one recording in the Recorded Announcer.

2.04 To Monitor a Recorded Message:

- a) Mode Switch - OS position
- b) Start Switch - Press
- c) ACCESS 1 should lite and message is available at the Record/Monitor Jack sleeves.

2.05 To put Recorded Announcer in service:

- a) Mode Switch - On Line position
- b) OS Lite - goes off

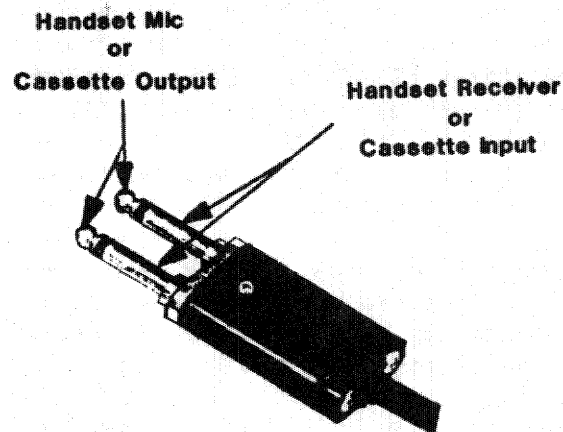


Figure 10. Record/Monitor Dual Plug

3. FUNCTIONAL TESTS

3.01 The Recorded Announcer, being solid state requires no alignment or periodic maintenance. After following the installation and strapping procedures (Section II), the unit should be ready for operation (Section III-2.). If a problem is suspected, refer to TABLE 7 Troubleshooting Guide for information on potential problems and corrective actions.

3.02 The most effective method of diagnosing a problem in the Recorded Announcer is to exchange the particular circuit card which is suspect. A spare Access Port Card and Memory Card are invaluable in troubleshooting.

3.03 Before calling the factory Customer Service for assistance, the following symptoms should be reviewed to better help the Customer Service Representative in diagnosing a particular problem.

a) While Recording:

1. Does the Record lite and Access 1 Lite remain on.
2. Does the Peak lite flash with high modulation?
3. Is there sidetone available in the handset?
4. Does the Record Lite stay on when Start is released?

b) While in OS Mode:

1. Will the Access 1 Lite remain on for the duration of the message?
2. Is there sidetone during recording but no playback.

c) While in On Line Mode:

1. Does the Access lite go out immediately after the end of message?
2. Does the OS Lite go out?

TABLE 7. TROUBLESHOOTING GUIDE

TROUBLE	PROBABLE CAUSE
Fuse Alarm Lite on	<ol style="list-style-type: none"> Office Power Lite on -F2 open Office Power Lite off -F1 open
Office Power Lite does not come on	<ol style="list-style-type: none"> Fuse Alarm Lite on -F1 open Fuse Alarm Lite off -Power Supply Card
No Audio output	<ol style="list-style-type: none"> Access Port Lite stays on for duration of recording. -Access Port Card #1 -Record/Monitor input mis-wired Access Port Lite will not remain on: <ol style="list-style-type: none"> No sidetone during recording -Record Amp Card or Access Port Card #1 Sidetone was present during recording -Logic Control Card or Memory Card
Noisy recording	<ol style="list-style-type: none"> During entire playback -Access Port Card #1 During a portion of playback -Memory Card
Loss of Recorded Message	Logic Control Card
Unable to Access Multiple ports	Logic Control Card
Access Port Lite stays on	Slide Unit forward in Card Cage, then reseal. If Access Port Lite goes off, then remains on-Access Port Card #1.
Record Lite will not come on	Access Port Card #1
Peak Lite does not flash during recording	<ol style="list-style-type: none"> Output gain too low from cassette. Handset/Cassette switch on Record Amp Board in wrong position. Record/Monitor input plugs mis-wired Record gain adjust-increase Record Amp card
Peak Lite stays on during recording	<ol style="list-style-type: none"> Output gain too high from cassette. Record gain Adjust-decrease. Record Amp card.

MEMBERSHIP LIST

1998

1. [Illegible text]

2. [Illegible text]

3. [Illegible text]

4. [Illegible text]

5. [Illegible text]

6. [Illegible text]

7. [Illegible text]

8. [Illegible text]

9. [Illegible text]

10. [Illegible text]

11. [Illegible text]

12. [Illegible text]

13. [Illegible text]

14. [Illegible text]

15. [Illegible text]

16. [Illegible text]

17. [Illegible text]

18. [Illegible text]

19. [Illegible text]

20. [Illegible text]

21. [Illegible text]

22. [Illegible text]

23. [Illegible text]

24. [Illegible text]

25. [Illegible text]

26. [Illegible text]

27. [Illegible text]

28. [Illegible text]

29. [Illegible text]

30. [Illegible text]

31. [Illegible text]

32. [Illegible text]

33. [Illegible text]

34. [Illegible text]

35. [Illegible text]

36. [Illegible text]

37. [Illegible text]

38. [Illegible text]

39. [Illegible text]

40. [Illegible text]

41. [Illegible text]

42. [Illegible text]

43. [Illegible text]

44. [Illegible text]

45. [Illegible text]

46. [Illegible text]

47. [Illegible text]

48. [Illegible text]

49. [Illegible text]

50. [Illegible text]

51. [Illegible text]

52. [Illegible text]

53. [Illegible text]

54. [Illegible text]

55. [Illegible text]

56. [Illegible text]

57. [Illegible text]

58. [Illegible text]

59. [Illegible text]

60. [Illegible text]

61. [Illegible text]

62. [Illegible text]

63. [Illegible text]

64. [Illegible text]

65. [Illegible text]

66. [Illegible text]

67. [Illegible text]

68. [Illegible text]

69. [Illegible text]

70. [Illegible text]

71. [Illegible text]

72. [Illegible text]

73. [Illegible text]

74. [Illegible text]

75. [Illegible text]

76. [Illegible text]

77. [Illegible text]

78. [Illegible text]

79. [Illegible text]

80. [Illegible text]

81. [Illegible text]

82. [Illegible text]

83. [Illegible text]

84. [Illegible text]

85. [Illegible text]

86. [Illegible text]

87. [Illegible text]

88. [Illegible text]

89. [Illegible text]

90. [Illegible text]

91. [Illegible text]

92. [Illegible text]

93. [Illegible text]

94. [Illegible text]

95. [Illegible text]

96. [Illegible text]

97. [Illegible text]

98. [Illegible text]

99. [Illegible text]

100. [Illegible text]

RECORDED ANNOUNCER

SECTION IV - DRAWINGS

ASSEMBLY

Access CODEC	A500255
256K Bit Memory	A500256
Access Port	A500257
Logic	A500258
Power Supply	A500259
LED	A500260
Record Amp	A500261
Base Board	A600156

SCHEMATIC

Access CODEC	C500255
256K Bit Memory	C500256
Access Port	C500257
Logic	C500258
Power Supply	C500259
LED	C500260
Record Amp	C500261
Base Board	C600156

RECEIVED BY TELETYPE

RECEIVED BY TELETYPE

PAGE 1

TO: DIRECTOR

FROM: SAC, NEW YORK

RE: MURDER OF

JOHN F. KENNEDY

DATE: 11/22/63

TIME: 10:00 AM

BY: J. Edgar Hoover

BY: J. Edgar Hoover

TO: DIRECTOR

FROM: SAC, NEW YORK

RE: MURDER OF

JOHN F. KENNEDY

DATE: 11/22/63

TIME: 10:00 AM

BY: J. Edgar Hoover

BY: J. Edgar Hoover

RECEIVED

TO: DIRECTOR

FROM: SAC, NEW YORK

RE: MURDER OF

JOHN F. KENNEDY

DATE: 11/22/63

TIME: 10:00 AM

BY: J. Edgar Hoover

BY: J. Edgar Hoover

TO: DIRECTOR

FROM: SAC, NEW YORK

RE: MURDER OF

JOHN F. KENNEDY

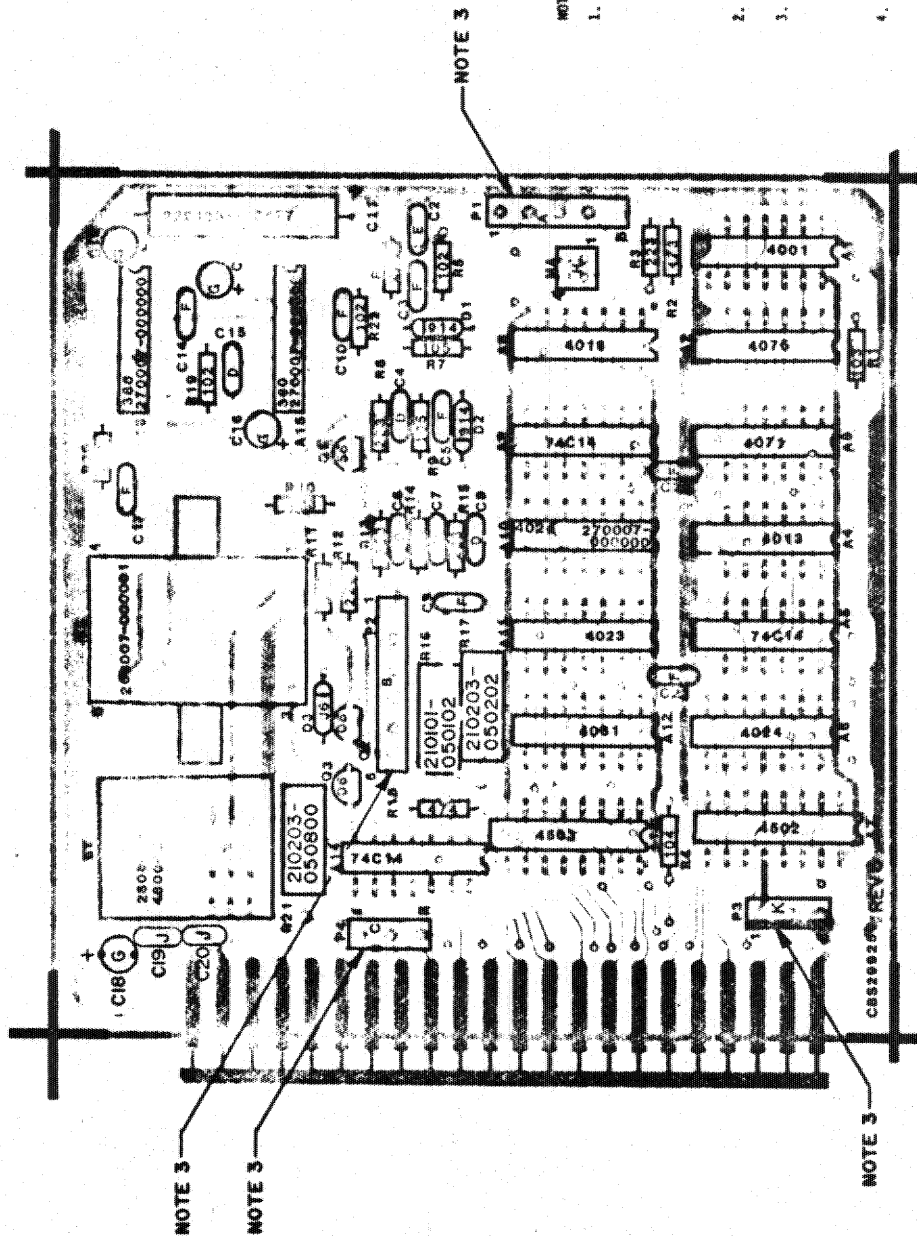
DATE: 11/22/63

TIME: 10:00 AM

BY: J. Edgar Hoover


BY: J. Edgar Hoover

ISS	REL NO	DATE	APPROVAL
1	RELEASED	9-11-80	133
2	1565	3-17-81	133
3	1924	5-5-81	133
4	1925	5-12-81	133
5	1954	6-1-81	133
6	2131	11-20-81	133
7	2144	1-5-82	133
8	2180	3-3-82	133
9	2253	3-13-82	133
10	2254	5-17-82	133
11	2372	5-24-82	133

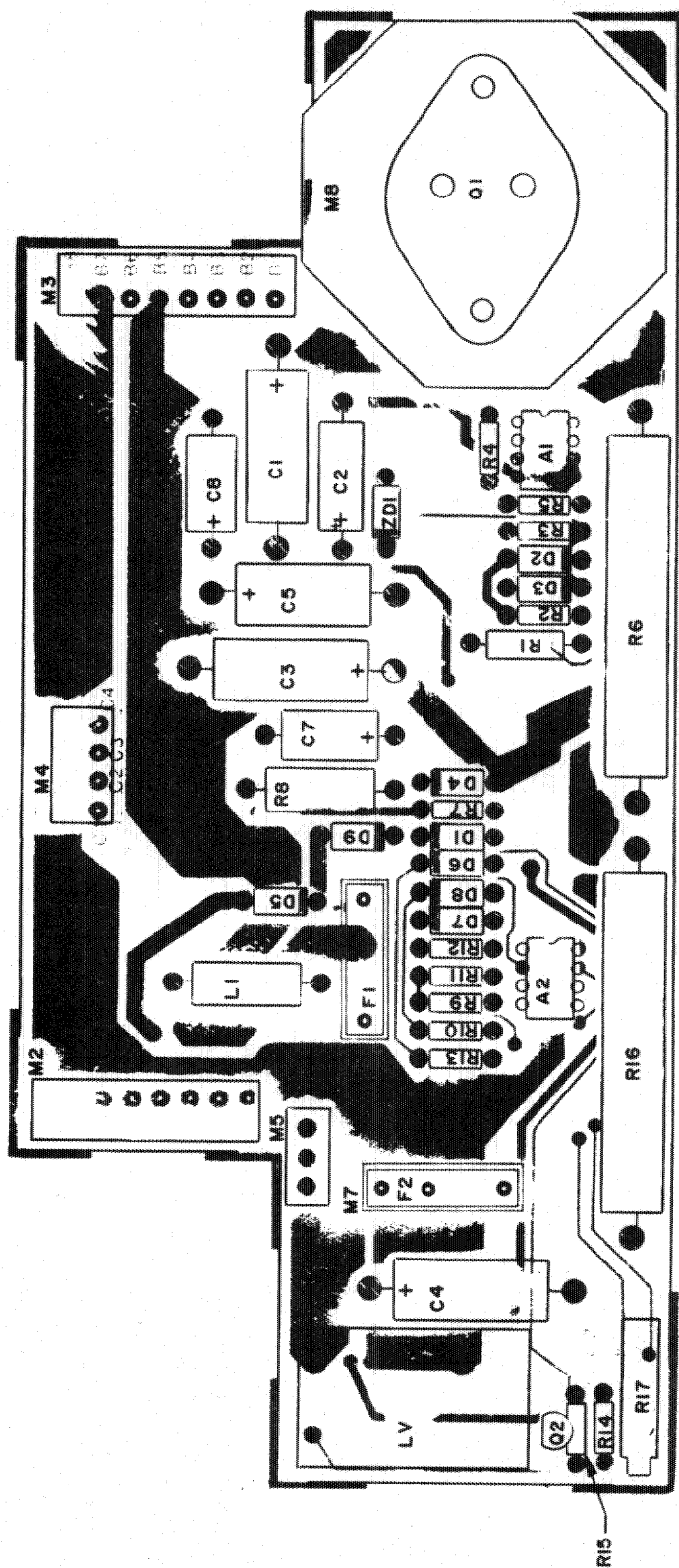



NOTES:

1. A = 270088-000005
B = 270088-000006
C = 270088-000007
D = 235101-100680
E = 235501-100331
F = 235630-400104
G = 237250-100106
H = 270101-000004
J = 239000-200104
K = 270083-000003
THIS DRAWING WILL SERVE AS BOTH AN "A" AND "MA".
2. 500255-000000 PLUG-ON MUST ALWAYS BE EQUIPPED AND SHOULD BE MOUNTED ON MOLEX POST STRIPS P1, P2, P3 AND P4 (P1 MATES WITH J1 OF PLUG-ON, P2 MATES WITH J2, P3 MATES WITH J3 AND P4 MATES WITH J4).
3. PINS ON P1 & P2 SHOULD BE CUT-OFF BY APPROXIMATELY 1/16".

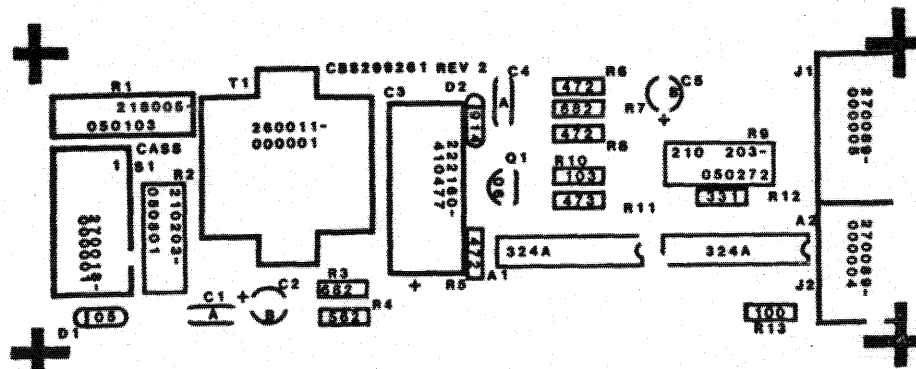
 ITC HUNTSVILLE ALABAMA 35802		RECORDER ANNOUNCER ACCESS PORT PLUG-ON
D	MA500257-00	REDRAWN 3-3-82

ISSUE	ECO NO	DATE	APPROVAL
1	RELEASED	12-6-80	WDR
2	554	3-10-81	WDR
3	559	4-14-81	WDR
4	553	4-22-81	WDR
5	2598	9-23-81	WDR
6	2371	5-24-82	WDR




 ITT HUNTSVILLE ALABAMA 35892		RECORDED ANNOUNCER POWER SUPPLY	
TITLE: _____ DATE: _____ BY: _____ CHK: _____ ENGR: _____ APFD: _____ MFC: _____		D THE DRAWING OR INFORMATION IS THE PROPERTY OF ITT. IT IS TO BE USED ONLY FOR THE PURPOSES SPECIFIED HEREIN. IT IS NOT TO BE REPRODUCED OR COPIED IN ANY FORM OR BY ANY MEANS WITHOUT PERMISSION IN WRITING FROM ITT.	
SCALE: _____ SIZE: _____		MA500259-00 DWG. 8/11/80	

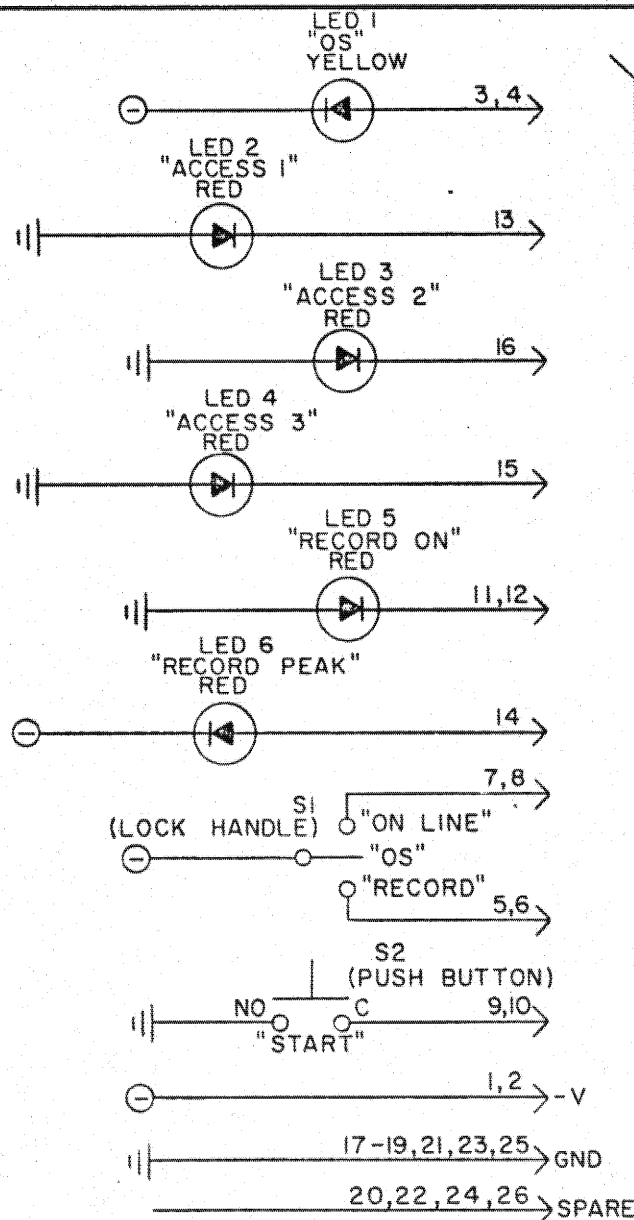
ISSUE	E.C.O. NO.	DATE	APPROVAL
1	RELEASED	12-29-80	W.K.
2	358	3-6-81	W.K.
3	323	5-5-81	W.K.
4	2111	10-30-81	L.S.B.
5	2143	1-5-82	L.S.B.
6	2308	6-10-82	L.S.B.



NOTES:


1. A = 239630-400104
B = 237250-100106
2. THIS DRAWING WILL SERVE AS BOTH AN "A" AND "MA".

TITLE		SIGNATURE & DATE		 ITEC HUNTSVILLE, ALABAMA 35802	RECORDED ANNOUNCER RECORD AMPLIFIER PLUG-ON
YCI					
DR		MONA PERREAULT			
CHK					
ENGR					
DNGR					
APPD					
RAC					
D		THIS DRAWING OR SPECIFICATION IS THE PROPERTY OF ITEC. IT IS TO BE KEPT IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF ITEC.		MA500261-00	
DWG. SCALE		1:1		DWG. BASE NO.	



TO BASE BOARD VIA
26 CONDUCTOR FLAT CABLE

CHANGES			APPD.
ISSUE:1	RELEASED	3-19-81	WSP

TITLE	SIGNATURE & DATE	 ITEC HUNTSVILLE, ALABAMA 35802	RECORDED ANNOUNCER LED SUPPORT
TCR			
DR	<i>Ernest L. Roach</i>		
CHK			
ENGR			
ENGR		THIS DRAWING OR SPECIFICATION IS THE PROPERTY OF ITEC. COPIES ARE ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.	C500260 DWG. BASE NO. SH1 OF 1
APPD	<i>WSP</i>		
MFG			
DWG. SIZE	B		
SCALE			
REF			

How are we doing?

We at ITEC welcome your comments and suggestions about the manuals, both good and bad. These are the best indicators of how informative the manual is to you, the ultimate user.

Should you have a helpful addition or find something that appears to be an error -- fill in this slip and mail it to the Technical Pubs Dept. and upon evaluation, we'll adjust the manual to include it.

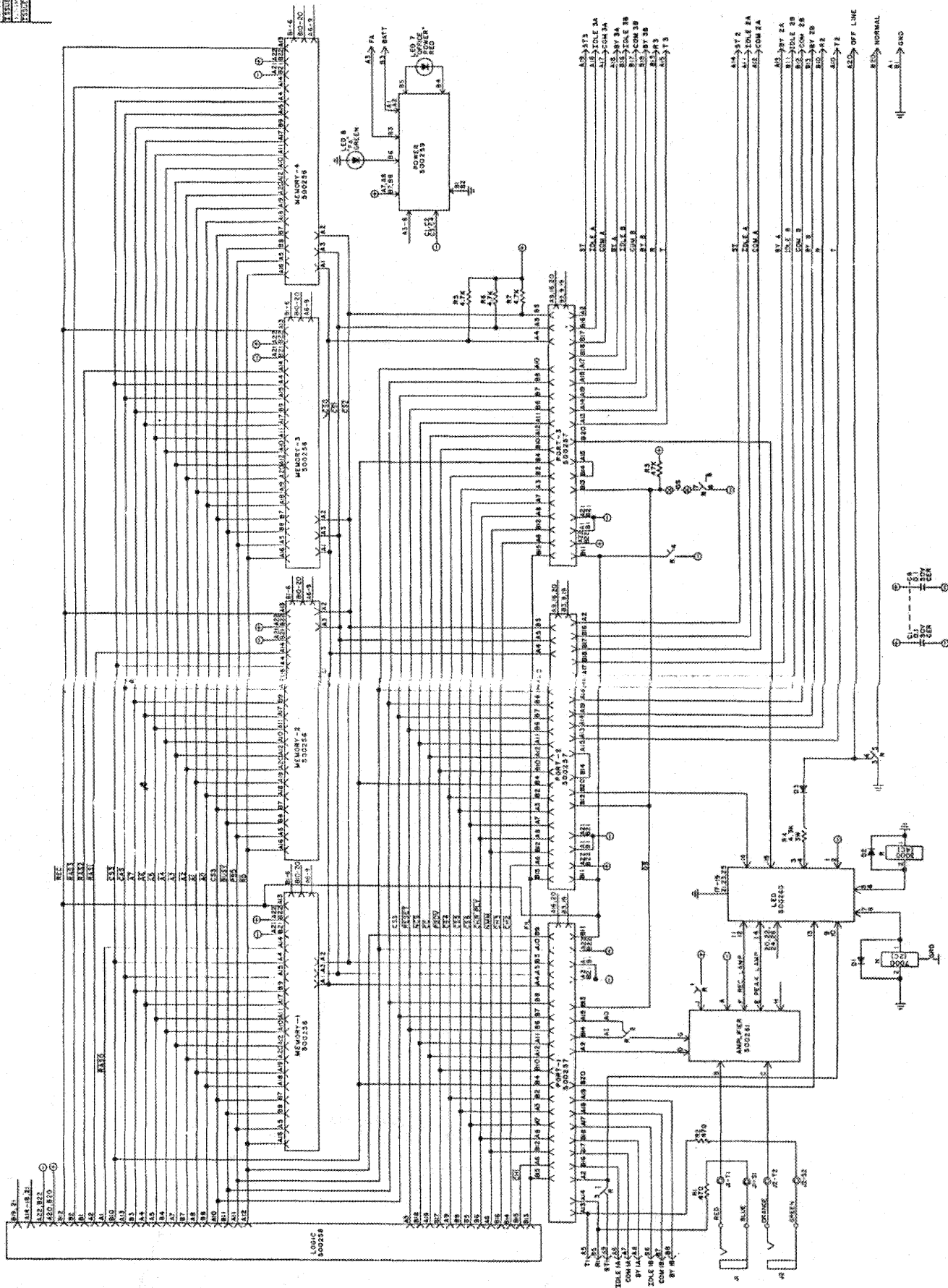
All actions must include the following:

Manual Name _____

Manual No. _____ -- _____ Page No. _____

Comments:

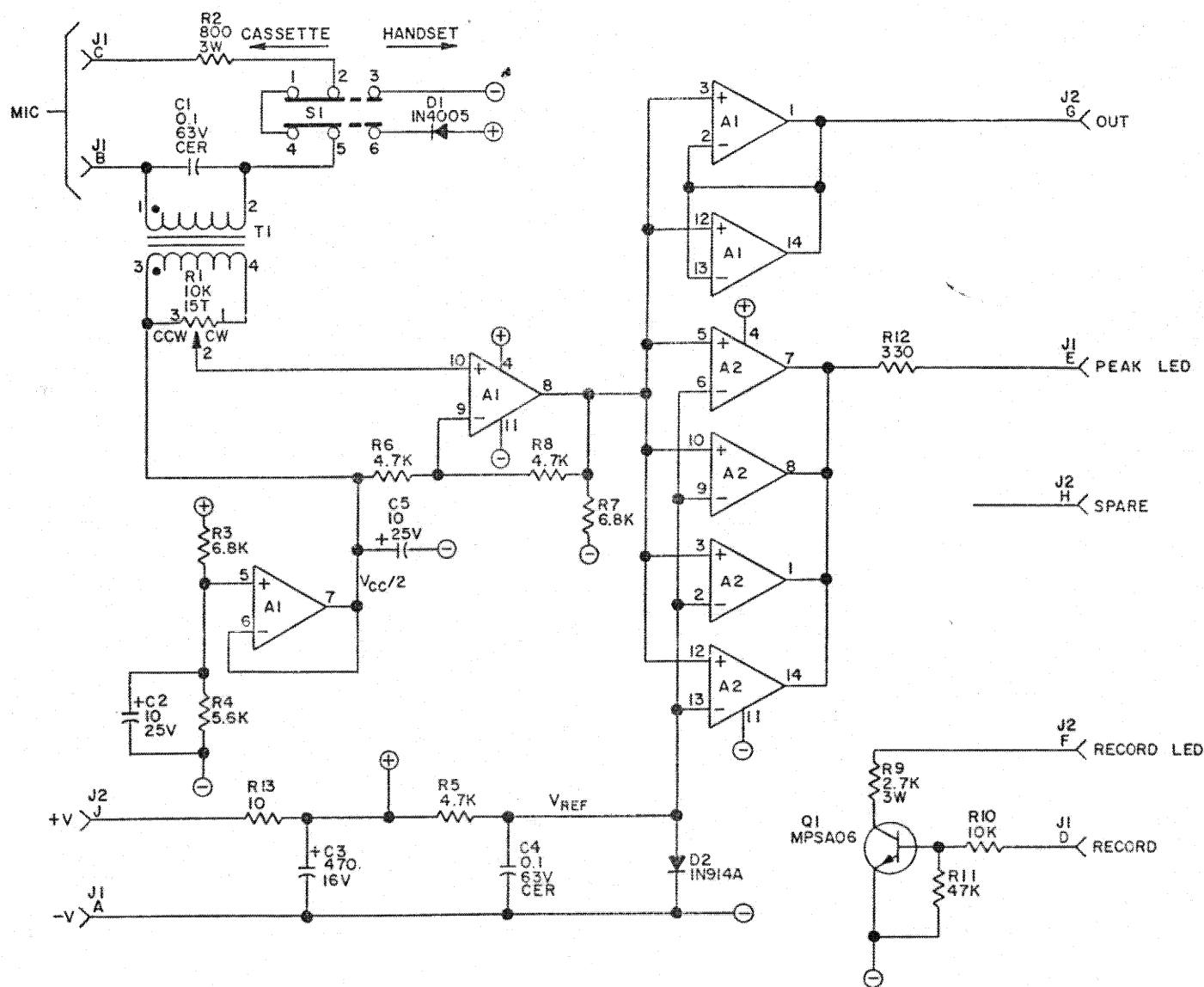
REVISION	DATE	BY	CHKD	APPD
1	10-1-68	W. J. H.		
2	10-1-68	W. J. H.		
3	10-1-68	W. J. H.		
4	10-1-68	W. J. H.		
5	10-1-68	W. J. H.		



NOTE: SWITCHES SHOWN IN POSITION
AS SHOWN IN THE UNIT.
IN THE CASE OF THE UNIT.



RECORDING		RECORDING	
ANNOUNCER		ANNOUNCER	
BASE BOARD		BASE BOARD	
C600156		C600156	



CHANGES		APPRO
ISSUE:1	RELEASED 12-29-80	
ECO-192:	CORRECTS DESIGN ERRORS.	
ISSUE:2	2-26-81	
ECO-193:	CORRECTS OUTPUT LEVEL OF RECORD AMP.	
ISSUE:3	5-5-81	
ECO-2111:	IMPROVES RECORDING INPUT TO SUPPRESS BACKGROUND NOISE. CORRECTS CAPACITOR VALUE.	
ISSUE:4	10-30-81	
ECO-2143:	REDUCES NOISE AND IMPROVES CODEL OPERATION.	
ISSUE:5	1-5-82	
ECO-2306:	IMPROVES OPERATION AND ALLOWS FOR UNIVERSAL INTERFACE TO CASSETT PLAYERS.	
ISSUE:6	4-16-82	

NOTES:

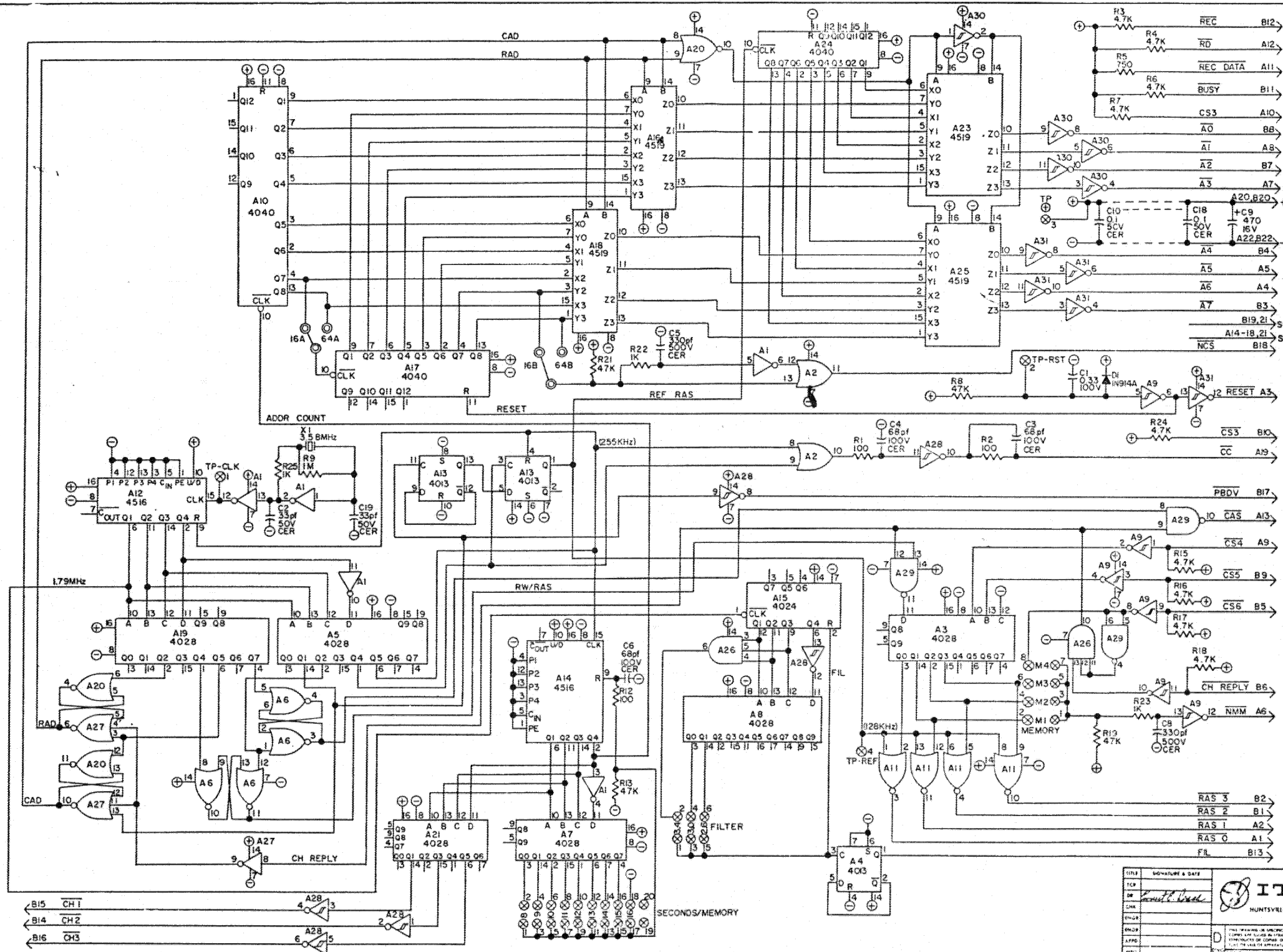
1. UNLESS OTHERWISE SPECIFIED:

ALL RESISTORS ARE 1/4 WATT.
ALL RESISTORS ARE 5%.
ALL RESISTOR VALUES IN OHMS.
ALL 3 & 5 WATT RESISTORS ARE WIRE WOUND.
ALL CAP. VALUES IN MFD.

2. I.C. INVENTORY IS AS FOLLOWS:

A1, A2 = 324A

TITLE	SIGNATURE & DATE	ITEC	
TOR		HUNTSVILLE, ALABAMA 35802	
DR	<i>Robert C. Reed</i>	RECORDED ANNOUNCER	
CHK		RECORD AMPLIFIER	
ENGR		PLUG-ON	
APPD		C500261	
WFO		DWG. BASE NO.	
		SH 1 OF 1	



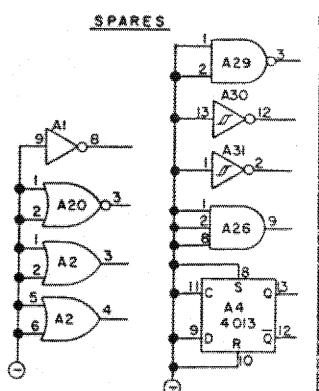
CHANGES		APP
ISSUE 1	RELEASED 10-14-80	
ISSUE 2	3-13-81	
ISSUE 3	5-5-81	
ISSUE 4	3-30-82	
ISSUE 5	5-21-82	
ISSUE 6	2-29-82	

NOTES:

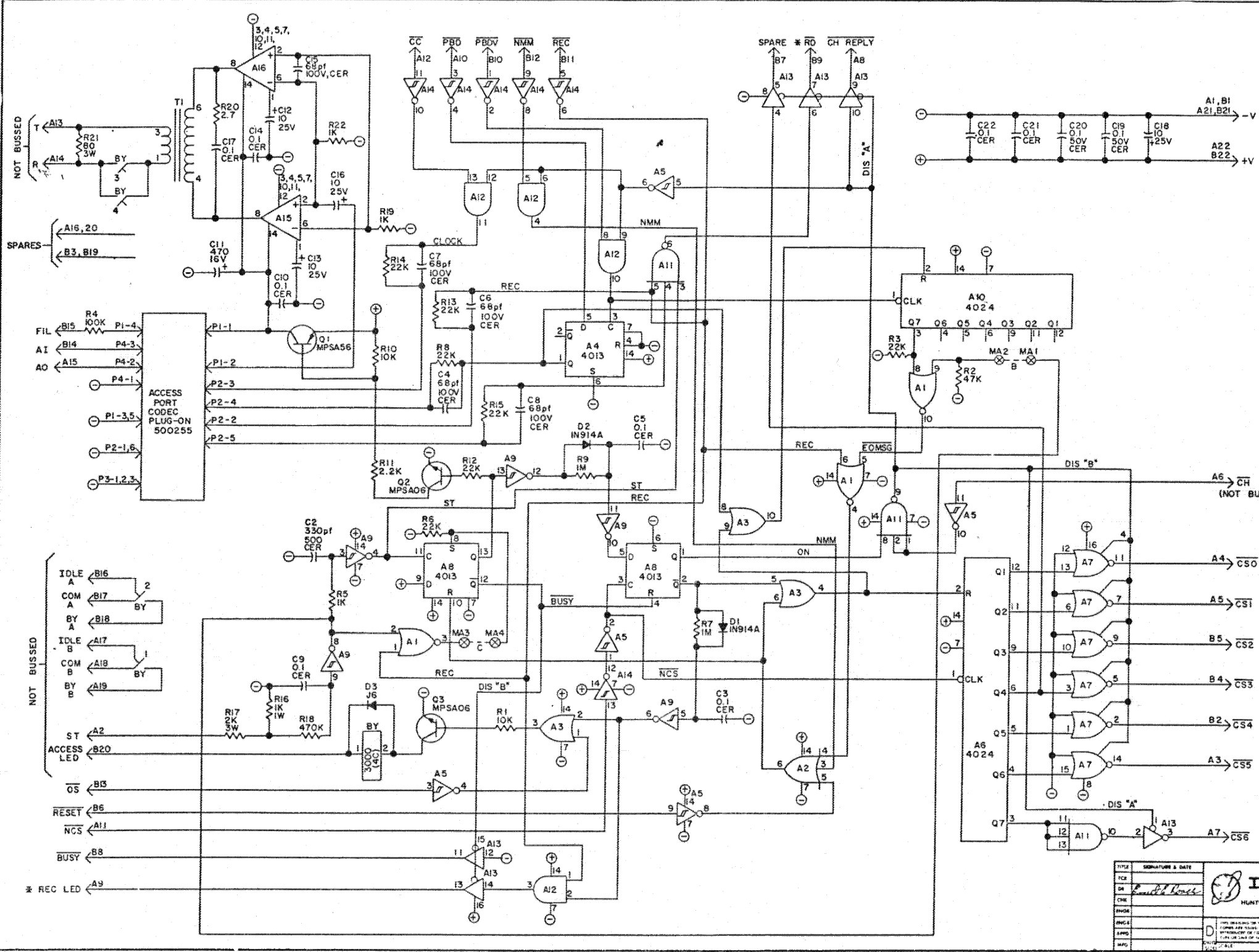
- UNLESS OTHERWISE SPECIFIED:
ALL RESISTORS ARE 1/4 WATT
ALL RESISTORS ARE 5%
ALL RESISTOR VALUES IN OHMS
ALL CAP. VALUES IN MFD
- I.C. INVENTORY IS AS FOLLOWS:
A1 = 4069
A2 = 4071
A3, A5, A7, A8, A19, A21 = 4028
A4, A13 = 4013
A6, A11, A20 = 4001
A9, A28, A30, A31 = 74C14
A10, A17, A24 = 4040
A12, A16 = 4516
A15 = 4024
A18, A23, A25 = 4519
A26 = 4029
A27 = 4002
A29 = 4011

SPARES

A1 = 4069
A2 = 4071
A3, A5, A7, A8, A19, A21 = 4028
A4, A13 = 4013
A6, A11, A20 = 4001
A9, A28, A30, A31 = 74C14
A10, A17, A24 = 4040
A12, A16 = 4516
A15 = 4024
A18, A23, A25 = 4519
A26 = 4029
A27 = 4002
A29 = 4011



TITLE	SIGNATURE & DATE	 HUNTSVILLE, ALABAMA 35892	RECORDED ANNOUNCER LOGIC PLUG-ON
REV			
CHK			
ENGR			
APPRO			
DATE			
THIS DRAWING IS UNCLASSIFIED AND THE PROPERTY OF ITC IT IS TO BE USED FOR INFORMATION ONLY AND NOT BE REPRODUCED OR COPIED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF ITC		C500258 (REV. DATE 10-14-80)	

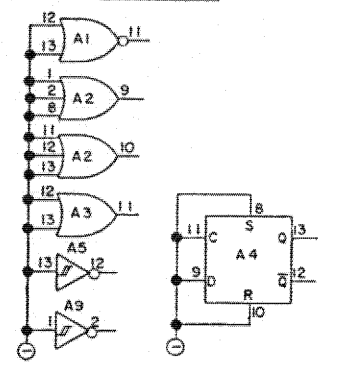


CHANGES	
ISSUE 1	RELEASED 9-16-80
ISSUE 2	4-3-81
ISSUE 3	5-5-81
ISSUE 4	5-12-81
ISSUE 5	11-20-81
ISSUE 6	1-5-82
ISSUE 7	3-15-82
ISSUE 8	5-24-82

- NOTES:
- UNLESS OTHERWISE SPECIFIED:
ALL RESISTORS ARE 1/4 WATT.
ALL RESISTORS ARE 5%
ALL RESISTOR VALUES IN OHMS
ALL 3 & 5 WATT RESISTORS ARE WIRE WOUND
ALL CAPS. ARE 63 WDC, VALUES IN MFD.
 - * = USED ONLY BY 1ST CARD POSITION.
 - I.C. INVENTORY IS AS FOLLOWS:

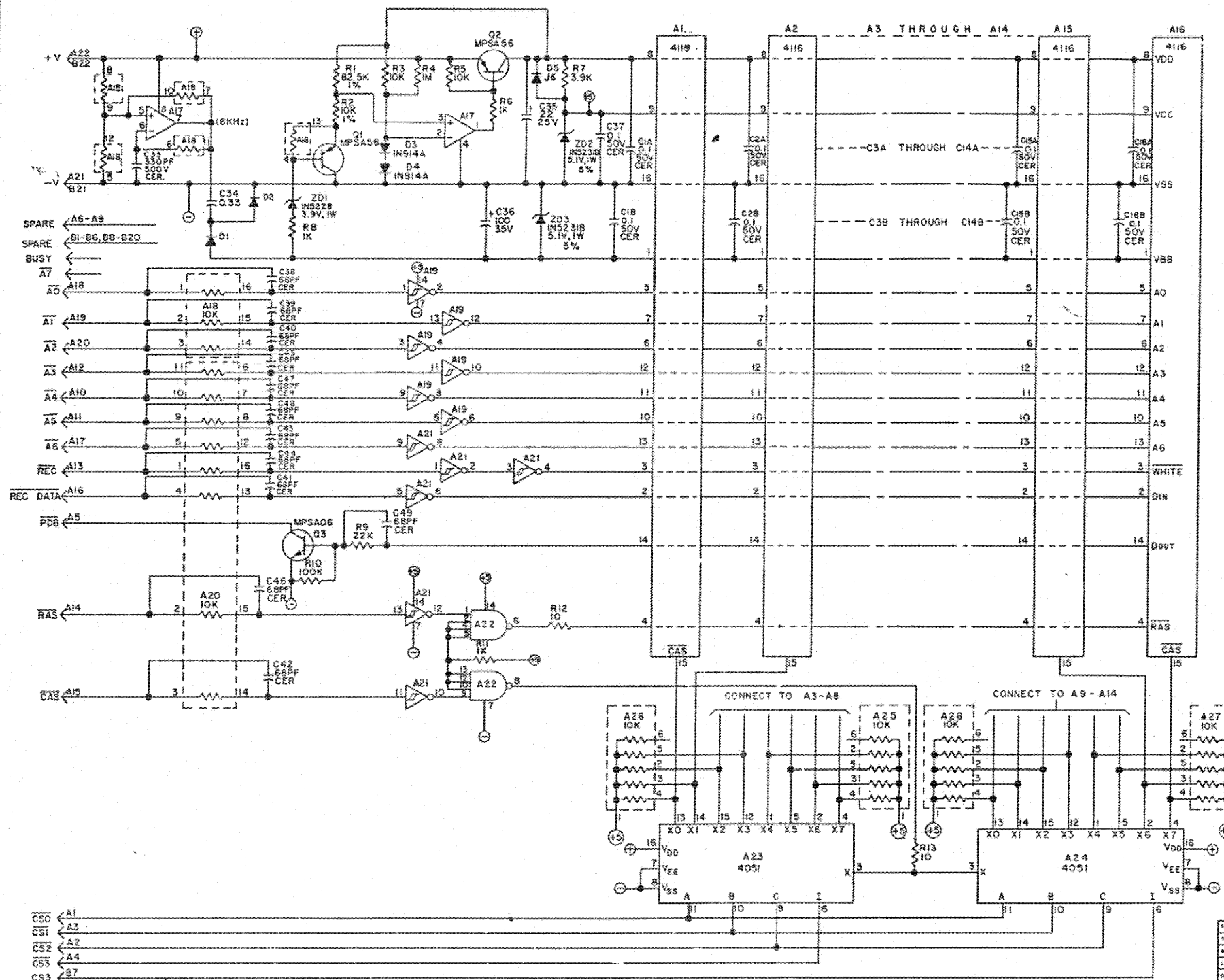
- A1 = 4001
- A2 = 4015
- A3 = 4078
- A4, A5 = 4013
- A6, A9, A14 = 74C14
- A8, A10 = 4024
- A7 = 4502
- A11 = 4023
- A12 = 4081
- A13 = 4503
- A15, A16 = 380

SPARES



TITLE	SIGNATURE & DATE	 HUNTSVILLE, ALABAMA 35892	RECORDED ANNOUNCER ACCESS PORT PLUG-ON
PCR			
DR			
CNC			
PNR			
APPRO		D	C500 257 SH 1 OF 1
APPRO			
APPRO			
APPRO			
APPRO			

CHANGES			APP
ISSUE:1	RELEASED	7-18-80	
ECO-1052: CORRECT DESIGN ERRORS.			
ISSUE:2		3-9-81	
ECO-2272A: CORRECT CAPACITOR VALUES.			
ISSUE:3		4-30-82	



- NOTES:
- UNLESS OTHERWISE SPECIFIED:
ALL RESISTORS ARE 1/4 WATT
ALL RESISTORS ARE 5%
ALL RESISTOR VALUES IN OHMS
ALL 2 & 5 WATT RESISTORS ARE WIRE WOUND
ALL DIODES ARE 1N4001 OR EQUIVALENT
ALL CAPS. ARE 100 WVDC, VALUES IN MFD.
 - RESISTOR PACKS A18 & A20 CONSIST OF (8) 100K, 2%, 1/8 WATT RESISTORS.
RESISTOR PACKS A25, A26, A27 & A28 CONSIST OF (5) 10K, 2%, 1/4 WATT RESISTORS.
 - I.C. INVENTORY IS AS FOLLOWS:
A1-A16 = 4116
A17 = 358
A19, A21 = 74C14
A22 = 74LS20
A23, A24 = 4051

TITLE		SIGNATURE & DATE	
CHK			
APP			
MFG			
DWC			
SCALE		REV	

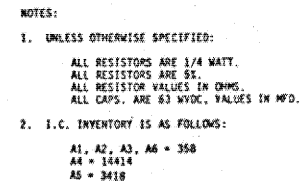
ITHC RECORDED ANNOUNCER


HUNTSVILLE, ALABAMA 35802

256K BIT MEMORY

1. A DRAWING OR SPECIFICATION IS THE PROPERTY OF ITHC. IT IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF ITHC. IT IS TO BE USED ONLY FOR THE PURPOSES FOR WHICH IT WAS ORIGINALLY DESIGNED.

C5C0256



TITLE SIGNATURE & DATE			RECORDED ANNOUNCER ACCESS PORT CODE PLUG-ON
TCN			
SK	MONA PERREAULT		
CRM			
ENGR			
SMGR		THIS INFORMATION IS BEING APPLIED TO THE PROPERTY OF ITFC C500255 ITFC IS NOT RESPONSIBLE FOR THE CONTENTS OF THIS MESSAGE AND IS NOT TO BE USED FOR ANY PURPOSES OTHER THAN THE PURPOSES FOR WHICH IT WAS ORIGINALLY TRANSMITTED.	
APPD			
ARG			

ISSUE	E.C.O. NO.	DATE	APPROVAL
1	RELEASED	11-24-80	11/27
2	1860	3-5-81	
3	1888	5-5-81	
4	1980	6-23-81	
5	2142	11-30-81	
6	2255	3-17-82	
7	2373	5-25-82	

NOTE:

FRONT PANEL ASSEMBLY (NOT SHOWN) INCLUDES FRONT PANEL, HANDLE, AND LED SUPPORT PCB. HANDLE AND LED SUPPORT BOARD ARE PHYSICALLY ATTACHED TO FRONT PANEL. LED SUPPORT BOARD IS ELECTRICALLY CONNECTED TO BASEBOARD VIA 26-CONDUCTOR FLAT-CABLE ASSEMBLY.

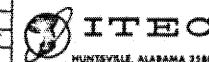
FRONT PANEL = M22
HANDLE = M30
LED SUPPORT PCB = M25
FLAT CABLE = M21

NOTE:

BATTERY IS ELECTRICALLY CONNECTED TO POWER SUPPLY PCB VIA 7-CONDUCTOR CABLE ASSEMBLY.

BATTERY = M28
POWER SUPPLY PCB = M24
MOLER HOUSING = M33
CRIMP TERM. = M24
BLACK WIRE = M35
RED WIRE = M36

TIME	SIGNATURE & DATE
DES	
CHK	
TRNG	
ENGR	
APPR	
MRG	



**RECORDED
ANNOUNCER
BASE BOARD**

THIS DRAWING OR ANY PART THEREOF IS THE PROPERTY OF ITEC. COPIES ARE MADE BY THE COMPANY AND SHALL NOT BE REPRODUCED OR COPIED, OR USED AS A BASIS FOR THE MAKING OF ANY OTHER DRAWING OR REPRODUCTION.

A600156

REDRAWN 3-5-81