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DESIGN CONTROL		
OPTION INDEX		
FS 1 DIGITAL ANNOUNCEMENT SERVICE	B1	1
FS 2 RECORD/REPRODUCE SERVICE WITH BLD3	B2	1
- AND REMOTE RECORD MODULE (400B)		
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CIRCUIT NOTES	D1	1
EQUIPMENT NOTES		
INFORMATION NOTES	D2	1
CIRCUIT DESCRIPTION	E1	1
	E2	1
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CAD 6	G3	1
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OPTION INDEX

APP OR WRG	RATED ON ISSUE	REF NOTES	LOCATION
Z	1	203, 302	FS2, 2C5

DWG ISS	CD ISS	DATE ISSD	DRN	APP
1	1	11-19-93		

SYSTEM USED ON	DESIGN CONTROL	SUPPORTING INFORMATION	
		CATEGORY	NO.
16A	WH		

RN01

COMMON SYSTEM
16A ANNOUNCEMENT SYSTEM
CIRCUIT

DWG SIZE	ISSUE
C2	1

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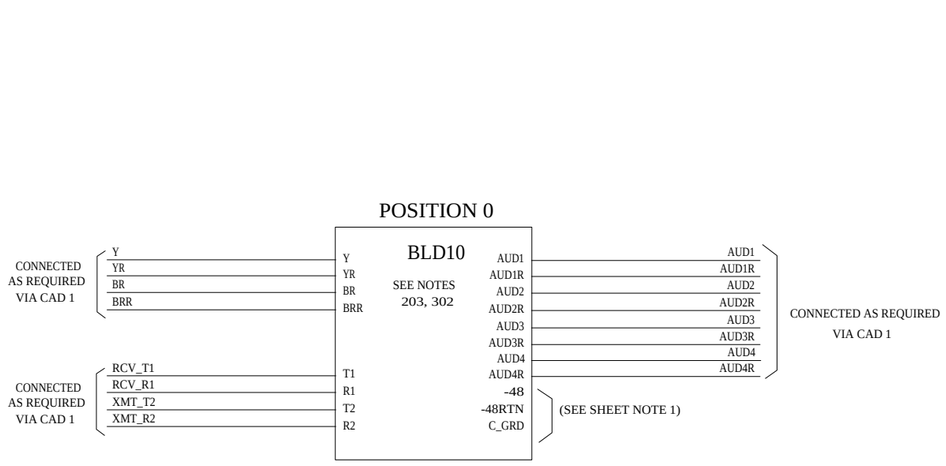
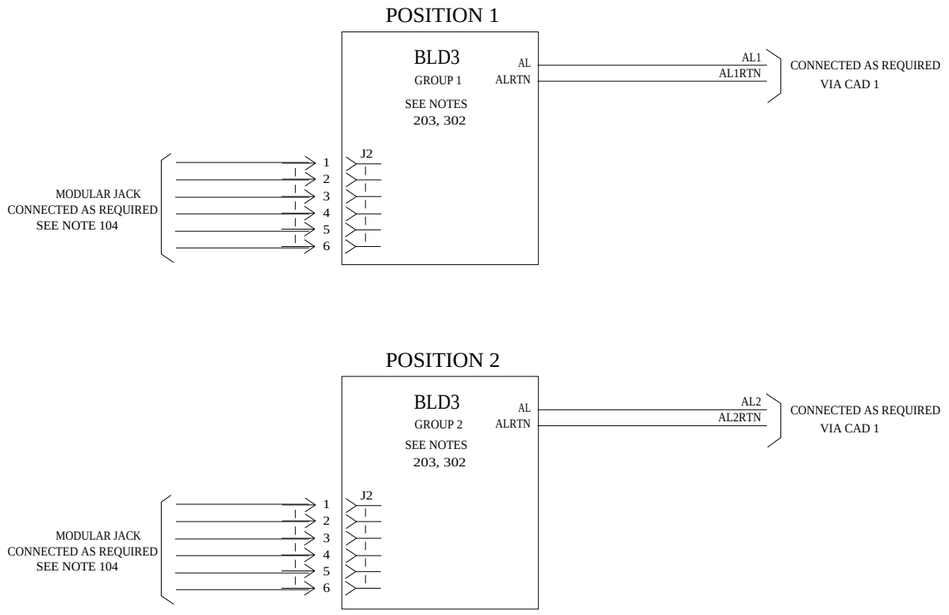
FS 1

DIGITAL ANNOUNCEMENT SERVICE





SHEET NOTE:

1. POWER TO SYSTEM PROVIDED THROUGH TERMINAL BLOCK CONNECTED VIA CAD 3

   (SEE NOTES 101, 102, 103)

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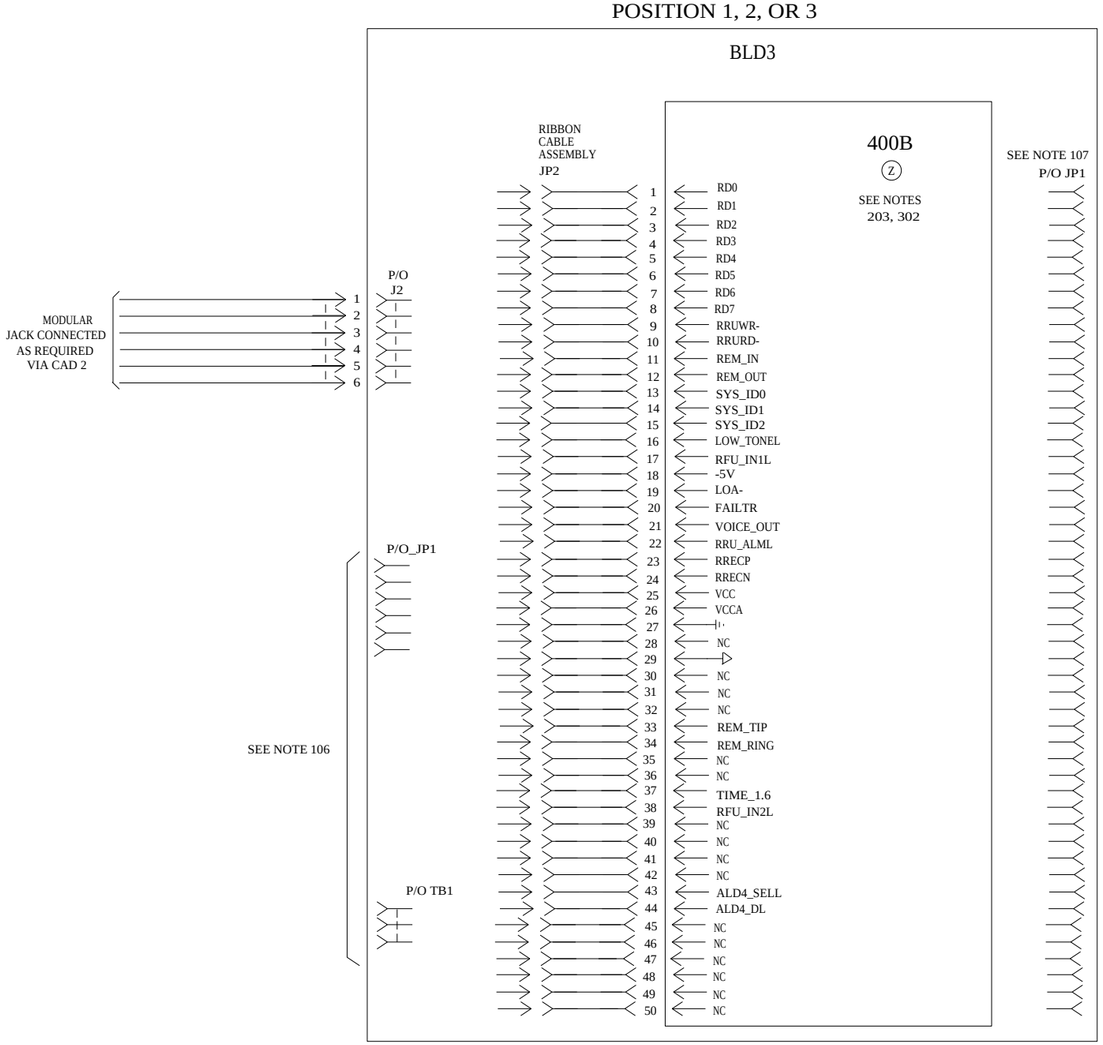
FS 2

RECORD/REPRODUCE SERVICE WITH BLD3

AND REMOTE RECORD MODULE (400B)

POSITION 1, 2, OR 3



16A ANNOUNCEMENT SYSTEM CIRCUIT	NOVEMBER 15, 1993	
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APP FIG 1

CIRCUIT PACK

EQPT LOC	POSITION 1 -(TOP LEFT)
DESIG	CPSM-BLD10
CLEI CODE	XCPQAEAAAA
CODE	BLD 10
OPTION	
TERM. FS LOC	FS1, 1D2

APP FIG 2

CIRCUIT PACK

EQPT LOC	POSITION 2 - (TOP RIGHT) POSITION 3 - (BOTTOM LEFT) POSITION 4 - (BOTTOM RIGHT)
DESIG	CPSM-BLD3
CLEI CODE	XCPQACVAAA
CODE	BLD3
OPTION	
TERM. FS LOC	FS1, 1B6/1D6/1F6

APP FIG 3

CIRCUIT PACK

EQPT LOC	
DESIG	CPSM-400B
CLEI CODE	XCPQADZAAA
CODE	400B
OPTION	Z
TERM. FS LOC	FS2, 2C5

SHEET NOTES:
1. LEFT AND RIGHT POSITION AS SEEN FROM THE FRONT OF THE SHELF.

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CIRCUIT NOTES:

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER
F1	*		APP FIG 1, APP FIG 2, APP FIG 3

BATTERY SYMBOL	VOLTAGE RANGE
-48V TALK BAT	-39.5V TO -60V

* EQUAL OR LARGER THAN 1 1/2 A, EQUAL OR LESS THAN 2A.

102. THE VOLTAGE REQUIRED FOR THE 16A SHOULD BE OBTAINED FROM THE -48V BATTERY PLANT. THE SYSTEM IS POWERED THROUGH THE TERMINAL BLOCK. ALWAYS CHECK VOLTAGE POLARITY BEFORE APPLYING POWER. APPLYING THE INCORRECT VOLTAGE POLARITY MAY CAUSE DAMAGE TO THE UNIT. REMOVE POWER TO THE UNIT WHILE WIRING CROSS CONNECTS AT THE DISTRIBUTION FRAME.

103. THE INPUT VOLTAGE REQUIREMENTS ARE -39.5VDC TO -60VDC MEASURED AT THE INPUT OF THE 16A. THE NOMINAL CURRENT DRAIN OF EACH BLD3 PACK IS 130MA AT -48VDC. THE NOMINAL CURRENT DRAIN OF THE BLD10 PACK IS 400MA AT -48VDC.

THE 16A SYSTEM SHOULD BE POWERED AND FUSED SEPARATELY. WHEN USING STANDARD TELECOMMUNICATION FUSES, SUCH AS THE 70 TYPE, A RATING OF 1 1/2A OR HIGHER COULD BE USED TO AVOID NUISANCE TRIPPING OF THE FUSE DURING TRANSIENTS AND POWER UP. THE FUSE RATING SHOULD NOT EXCEED 2A.

104. THE RRU MODULAR JACK J2 IS OPTIONAL. WHEN THE BLD3 IS EQUIPPED WITH THE 400B REMOTE RECORD MODULE, THE JACK J2 IS USED TO INTERCONNECT AN ANALOG LINE DIRECTLY OR VIA THE ALD4 REMOTE RECORD CONCENTRATOR (SD-97812-01)

105. DIP SWITCH SETTINGS ARE AS FOLLOWS:

5ESS DIP SWITCH POSITIONS.

DIP SWITCH POSITION AS FOLLOWS:

BLD10:	SW1-2 HIGH, SW6-8 LOW,	SW3-4 LOW, SW9-12 OPTIONAL	SW5 HIGH,	
BLD3 CONFIGURATION:	SW1 HIGH,	SW2 LOW,	SW3-7 HIGH,	SW8 LOW
BLD3 ATTENUATION:	ALL HIGH			

BLD10 SWITCHES 9-12 ARE USED TO SELECT MUSIC-ON-HOLD OR OTHER EXTERNAL SOURCE CONNECTIONS. PLACING THE SWITCH HIGH ENABLES THE SOURCE. PLACING THE SWITCH LOW SELECTS THE REGULARLY ASSIGNED ANNOUNCEMENT CHANNEL.

106. POWER TO THE SYSTEM IS PROVIDED THROUGH THE TERMINAL BLOCK ON THE BACKPLANE AND IS OBTAINED BY THE BLD3 THROUGH ITS 50 PIN CONNECTOR.

107. ALL SIGNALS CONNECTED VIA THIS 50 PIN CONNECTOR ARE USED INTERNALLY WITHIN THE 16A SYSTEM THROUGH THE BACKPLANE.

EQUIPMENT NOTES:

201. TO CAUSE MINIMUM INTERFERENCE TO THE AUDIO SIGNALS THE 16A ANNOUNCEMENT SYSTEM SHOULD NOT BE LOCATED IN THE SAME FRAME OR ADJACENT TO EQUIPMENT WHICH PRODUCES EXTRAORDINARY ELECTRICAL ACTIVITY (SUCH AS RINGING AND TONE EQUIPMENT, OR INTERRUPTER CIRCUITS).

202. NO MINIMUM SEPARATION REQUIRED BETWEEN 16A CHASSIS.

203. CLEI CODES ARE AS LISTED BELOW:

CODE	CLEI CODE
BLD3	XCPQACVAAA
BLD10	XCPQAEAAAA
400B	XCPQADZAAA

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INFORMATION NOTES:

301. UNLESS OTHERWISE SPECIFIED:
RESISTANCE VALUES ARE IN OHMS.
CAPACITANCE VALUES ARE IN MICROFARADS.
VALUES PRECEDED BY THE SYMBOL + (PLUS)
OR - (MINUS) ARE IN VOLTS.

302.

FEATURE OR OPTION	PROVIDE		
	APP FIG	APP OR WRG	QTY QUANTITY
BLD10 DIGITAL RECORD/REPRODUCE SERVICE IN POSITION 0 (TOP LEFT)	1		1 PER SYSTEM
BLD3 RECORD/REPRODUCE SERVICE IN POSITION 1 (TOP RIGHT), 2 (BOTTOM LEFT), AND 3 (BOTTOM RIGHT)	2		3 PER SYSTEM
400B REMOTE RECORD SERVICE ONLY	3	Z	1 PER BLD3 CKT

303.

RECORD OF FIGURES, WIRING AND APPARATUS CHANGES					
CHANGES ON ISS	IF JOB RECORD DO NOT	THIS OPTION WAS	SEE NOTES	USE IN CIRCUIT AVAIL	DA

304. ANNOUNCEMENT FOR BLD3 IS OBTAINED BY RECORDING THE DESIRED ANNOUNCEMENT BY EITHER SPEAKING INTO A TELEPHONE HANDSET OR BY DUBBING THE PRE-RECORDED ANNOUNCEMENT FROM A TAPE RECORDER.

16A ANNOUNCEMENT SYSTEM CIRCUIT

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SECTION I - GENERAL DESCRIPTION AND OPERATION

1. SYSTEM OVERVIEW

1.01 THE 16A ANNOUNCEMENT SYSTEM IS A STATE-OF-THE-ART COMPLETELY ELECTRONIC SYSTEM. THE 16A PROVIDES RECORD AND PLAYBACK SERVICE TO SWITCHING SYSTEMS THROUGH DIGITAL TRUNKS IN THE SWITCH. EACH 16A SYSTEM IS INTENDED TO PROVIDE 24 CHANNELS OF DIGITAL ANNOUNCEMENTS.

1.02 THE UNIT CONSISTS OF A CHASSIS WITH ATTACHED BACKPLANE THAT ACCOMMODATES FOUR CIRCUIT PACKS. ONE CIRCUIT PACK PROVIDES THE INTERFACE TO THE DIGITAL TRUNK. EACH OF THE OTHER THREE CIRCUIT PACKS PROVIDES 8 CHANNELS OF ANNOUNCEMENTS. THE CIRCUIT PACKS ARE MOUNTED SIDE-BY-SIDE ON TWO LEVELS WITHIN 4 INCHES OF HEIGHT.

1.03 THE 16A IS VERY SIMPLE TO INSTALL. ALL CONNECTIONS ARE MADE ON STANDARD WIRE WRAP PINS. POWER CAN BE OBTAINED FROM -48VDC POWER.

SECTION II - DESCRIPTION OF 16A ANNOUNCEMENT SYSTEM

1. CIRCUIT PACKS

1.01 THE 16A ANNOUNCEMENT SYSTEM HAS THE FOLLOWING CIRCUIT PACKS:

- BLD10 - A DIGITAL INTERFACE UNIT THAT ENCODES AND FRAMES 24 CHANNELS OF ANNOUNCEMENTS FOR CONNECTION TO A T1 TRUNK INTERFACE.

- BLD3 - A RECORD/REPRODUCE UNIT THAT USES EEPROM MEMORY AND CAN RECORD UP TO EIGHT UNIQUE ANNOUNCEMENTS OF UP TO 60 SECONDS IN LENGTH EACH.

- 400B - A CIRCUIT MODULE THAT MOUNTS ON EACH BLD3 CIRCUIT PACK THAT PROVIDES REMOTE RECORD CAPABILITY. THIS CIRCUIT MODULE IS OPTIONAL.

1.02 THE CIRCUIT PACKS ARE ALL PROVIDED WITH -48V POWER THROUGH THE TERMINAL BLOCK ON THE BACKPLANE. ALL CIRCUITRY NEEDED FOR PLAYBACK OF A RECORDED ANNOUNCEMENT IS LOCATED ON THE BLD3. THE CIRCUIT PACK IS PROVIDED WITH AN INPUT JACK FOR A MODULAR TELEPHONE HANDSET AND AN INPUT JACK FOR A STANDARD TAPE RECORDER (THESE JACKS ARE USED FOR RECORDING OR MONITORING ANNOUNCEMENTS ON ANY OF THE CHANNELS OF THE CIRCUIT PACK).

1.03 THE FOUR CIRCUIT PACKS ARE INTERCONNECTED THROUGH THE BACKPLANE. INTERFACING TO A DIGITAL TRUNK IS DONE THROUGH CONNECTION TO FOUR WIRE WRAP PINS. THIS OUTPUT SIGNAL IS TRANSFORMER-COUPLED AND CAN BE USED WITH 100 OHM TRUNKS.

1.04 THE BLD3 CIRCUIT PACKS HAVE AN ANALOG INPUT SECTION CONSISTING OF A DIFFERENTIAL AMPLIFIER AND AUTOMATIC GAIN CONTROL (AGC) STAGE WHICH PROVIDES CONDITIONING TO THE INPUT SPEECH SIGNALS. ANNOUNCEMENTS CAN BE RECORDED OR MONITORED LOCALLY ON ANY OF THE CHANNELS OR RECORDED VIA THE TAPE RECORDER. IT IS ALSO POSSIBLE TO RECORD OR MONITOR MESSAGES REMOTELY ON ANY CHANNEL VIA THE REMOTE RECORD CIRCUIT MODULE (400B).

1.05 THE SPEECH SIGNALS ARE STORED IN EEPROM DEVICES. THE BLD10 CIRCUIT PACK DIGITALLY ENCODES THE ANNOUNCEMENTS AND FORMATS 24 CHANNELS TOGETHER. THE BLD10 CIRCUIT PACK PROVIDES T1 FORMATTING AND A/B SIGNALING TO THE SWITCH.

2. DIAGNOSTICS

2.01 THE MICROCONTROLLERS ON EACH CIRCUIT PACK ALONG WITH OTHER CIRCUITS PROVIDE THE FOLLOWING DIAGNOSTICS:

- ROM CHECK (ON POWER-UP ONLY).
  THIS TEST DOES A CHECKSUM ON THE MICROPROCESSOR ON POWER-UP. THIS FUNCTION IS PERFORMED BY ALL THE CIRCUIT PACKS.

- FPGA CHECK (ON POWER-UP ONLY).
  CHECKS THAT ON-BOARD FIELD PROGRAMMABLE ARRAYS ARE FUNCTIONAL. THIS FUNCTION IS PERFORMED BY ALL THE CIRCUIT PACKS.

- SANITY TIMER (MICROCONTROLLER FAILURE).
  A "WATCHDOG" IC CHECKS FOR PROGRAM EXECUTION IN THE MICROCONTROLLER. THIS TEST IS ACCOMPLISHED BY HAVING AN OUTPUT PIN IN THE MICROCONTROLLER CONTINUOUSLY RESET AT THE TIMER IN THE WATCHDOG IC. THIS FUNCTION IS PERFORMED BY ALL THE CIRCUIT PACKS.

- LOSS OF POWER.
  A COMPLETE LOSS OF POWER DE-ENERGIZES THE "NORMALLY CLOSED" ALARM RELAY, THUS PRODUCING AN ALARM CONDITION. THIS FUNCTION IS PERFORMED BY THE BLD10 CIRCUIT PACK AND CAUSES THE RED LED TO LIGHT.

- LOSS OF CLOCK.
  IF THE CLOCK PROVIDED TO THE SYSTEM FROM THE NETWORK IS LOST, AN ALARM CONDITION IS PRODUCED. THIS FUNCTION IS PERFORMED THROUGH THE BLD10 CIRCUIT PACK AND CAUSES THE YELLOW LED TO LIGHT.

- LOSS OF ANNOUNCEMENT.
  THIS TEST CHECKS THAT A MESSAGE HAS NOT BEEN LOST AFTER RECORDING. THIS IS ACCOMPLISHED BY MEASURING THE AUDIO LEVEL OF THE MESSAGE EVERY TIME IT IS PLAYED BACK. THE CRITERIA FOR FAILURE IS FOR THE AUDIO LEVEL TO BE BELOW AN ACCEPTABLE VALUE FOR MORE THAN 10 SECONDS TYPICALLY.

- REMOTE MODULE FAILURE.
  A SYSTEM EQUIPPED WITH THE REMOTE RECORD OPTION GENERATES AN ALARM CONDITION IF THE REMOTE RECORD MODULE FAILS.

3. REMOTE ACCESS MODULE

3.01 REMOTE INTERFACE FUNCTIONALITY IS OPTIONAL. REMOTE ACCESS CONNECTIVITY TO A PHONE LINE IS PROVIDED BY MEANS OF A BOARD-MOUNTED MODULAR JACK ACCESSIBLE THROUGH OPENINGS IN THE BACKPLANE. OPERATION OF THE REMOTE ACCESS INTERFACE IS EXPLAINED IN DETAIL IN AT&T PRACTICE 201-523-101, ISSUE 1.

SECTION III - OPERATIONAL PROCEDURES

1. FACEPLATE INDICATORS AND MODES OF OPERATION

1.01 ALL OPERATIONAL MODES FOR THE BLD3'S ARE ACCESSIBLE FROM THE FRONT PANEL THROUGH MENU SELECTION AS DESCRIBED IN AT&T PRACTICE 201-523-101, ISSUE 1.

1.02 OPERATIONAL MODES FOR THE DIGITAL INTERFACE ARE ALSO ACCESSIBLE FROM THE FRONT PANEL THROUGH DIP SWITCH SELECTION. A 12-POSITION DIP SWITCH IS LOCATED ON THE FRONT EDGE OF THE CIRCUIT PACK. THE FUNCTIONALITY OF EACH OF THE 12 DIP SWITCHES IS DESCRIBED BELOW. A '1' INDICATES THE 'ON' OR UP POSITION OF A SWITCH. A '0' INDICATES THE 'OFF' OR DOWN POSITION OF A SWITCH. FOR PROPER OPERATION OF THE SYSTEM, A MANUAL RESET SHOULD BE PERFORMED AFTER CHANGING ANY DIP SWITCH SETTING. PRESSING THE RESET BUTTON MOMENTARILY TAKES THE UNIT OUT OF SERVICE.

O LINE EQUALIZATION (SWITCH POSITIONS 1-3):
THESE THREE SWITCHES SHOULD BE CONFIGURED BEFORE POWERING THE CIRCUIT PACK. THEY ARE USED TO EQUALIZE TRANSMISSION WITH RESPECT TO INTERFACE TYPE (I.E., T1, DS1, OR CEPT), AND DISTANCE. THE FOLLOWING TABLE DEFINES THE SETTINGS.

SERVICE	EQUALIZATION*	SW1	SW2	SW3
T1	--	0	0	0
DS1	0 TO 131 FT	0	0	1
DS1	131 FT TO 262 FT	0	1	0
DS1	262 FT TO 393 FT	0	1	1
DS1	393 FT TO 524 FT	1	0	0
DS1	524 FT TO 655 FT	1	0	1
CEPT	75 OHMS	1	1	0
CEPT	120 OHMS	1	1	1

* FOR DS1, EQUALIZATION DISTANCE IS TO DSX IN FEET FOR 22 GA CABLE.

O T1/E1 OPERATION (SWITCH 4):
T1 OPERATION AT 1.544 MBPS IS SELECTED WHEN THIS SWITCH IS 'OFF'. E1 OPERATION AT 2.048 MBPS IS SELECTED WHEN THIS SWITCH IS 'ON'. T1 OPERATION ONLY IS AVAILABLE IN THE FIRST RELEASE OF THIS PRODUCT.

O CONTINUOUS/ON-DEMAND OPERATION (SWITCH 5):
NORMAL/REVERSE POLARITY (SWITCH 7):
THESE TWO SWITCHES ARE RELATED TO DETERMINING THE SIGNALING STRATEGY DEPENDING ON WHAT KIND OF SWITCH THE ANNOUNCEMENT SYSTEM IS CONNECTED TO. IN ADDITION, POSITIONS 1 AND 2 OF THE CONFIGURATION SWITCH ON THE BLD3 CIRCUIT PACKS MUST BE CHANGED ACCORDINGLY. THE FOLLOWING TABLE SHOWS THE NECESSARY CONFIGURATION FOR THE 5ESS WHICH REQUIRES CONTINUOUS ANNOUNCEMENTS, AND THE CONFIGURATION FOR SWITCHES THAT REQUIRE ON-DEMAND ANNOUNCEMENTS.

	DIGITAL INTERFACE		BLD3 CONFIG	
ANNOUNCEMENT TYPE	SW5	SW7	SW1	SW2
CONTINUOUS (5ESS)	ON	OFF	ON	OFF
ON-DEMAND	OFF	ON	OFF	ON

O LOOPBACK TEST (SWITCH 6):
THIS SWITCH PUTS THE CIRCUIT PACK INTO A LOOPBACK MODE WHERE ANY INCOMING SIGNAL RECEIVED FROM THE NETWORK OVER THE DIGITAL FACILITY WILL BE LOOPED BACK AND TRANSMITTED BACK TO THE SOURCE. THIS TEST IS ACTIVATED BY SETTING THE SWITCH TO THE 'ON' POSITION. NO ANNOUNCEMENTS WILL BE PLAYED IN THIS SITUATION.

O MISCELLANEOUS (SWITCH 8):
THIS SWITCH IS RESERVED FOR FUTURE USE.

O MUSIC ON HOLD 1-4 (SWITCHES 9-12):
THESE SWITCHES CORRESPOND TO DS1 CHANNELS 21-24, RESPECTIVELY. INSTEAD OF PLAYING A REGULARLY RECORDED ANNOUNCEMENT DIRECTLY FROM THE ANNOUNCEMENT CIRCUIT PACK, THESE CHANNELS CAN BE USED TO CONNECT ALTERNATIVE UNREGISTERED SOURCES (E.G., MUSIC). THESE SOURCES MUST BE CONNECTED TO THE APPROPRIATE WIRE WRAP PINS ON THE BACKPLANE OF THE CHASSIS. POSITIONING THE SWITCH TO 'ON' WILL ENABLE THE EXTERNAL SOURCE. POSITIONING THE SWITCH TO 'OFF' WILL RESULT IN THE PLAYING OF THE REGULARLY ASSIGNED ANNOUNCEMENT CHANNEL.

SECTION IV - SYSTEM INTERCONNECTION AND SIGNALING
1. SIGNALS AVAILABLE AT THE BACKPLANE
1.01 THE UNIT IS PROVIDED WITH THE FOLLOWING WIRE WRAP PIN CONNECTIONS.
4 PINS FOR DIGITAL CONNECTIVITY, 2 T-R PAIRS.

- RCV T1/RCV R1, XMT T2/XMT R2

10 PINS FOR ALARM CLOSURE, 2 EACH FOR THE BLD3'S AND 4 FOR THE DIGITAL INTERFACE.

- AL1/ALR1, AL2/ALR2, AL3/ALR3

- Y, YR, BR, BRR

8 PINS FOR MUSIC-ON-HOLD, 2 FOR EACH CHANNEL.

- AUD1/AUD1R, AUD2/AUD2R, AUD3/AUD3R, AUD4/AUD4R

1.02 THE UNIT IS ALSO PROVIDED WITH A TERMINAL BLOCK FOR -48V POWER CONNECTIVITY AND CHASSIS GROUND.
1.03 MODULAR PHONE JACKS ARE ACCESSIBLE THROUGH OPENINGS IN THE BACKPLANE FOR CONNECTING A TELEPHONE LINE TO THE REMOTE RECORD MODULE.

SECTION V - REFERENCE DATA

1. POWER REQUIREMENTS
1.01 THE 16A OPERATES FROM -39.5VDC TO -60VDC INPUT VOLTAGE. CURRENT DRAIN IS NOMINALLY 0.8A AT -48VDC IN A FULLY CONFIGURED SYSTEM (I.E., WITH FOUR CIRCUIT PACKS AND THREE REMOTE RECORD CIRCUIT MODULES). THE UNIT IS DESIGNED TO BE POWERED FROM A STANDARD CENTRAL OFFICE BATTERY PLANT.
2. MANUFACTURING TESTING REQUIREMENTS
2.01 THE MANUFACTURING TESTING REQUIREMENTS FOR THE 16A SYSTEM ARE CONTAINED IN THE SYSTEM TEST MTR FOR THE 16A ANNOUNCEMENT SYSTEM.
3. CONNECTING CIRCUITS
3.01 THE FOLLOWING IS A LIST OF AT&T PRACTICES AND TYPICAL INTERCONNECTING CIRCUITS.

201-523-101	16A ANNOUNCEMENT SYSTEM DESCRIPTION AND OPERATING PROCEDURES
SD-97816-01	16A EQUIPMENT DRAWINGS
201-519-120	REMOTE RECORD CONCENTRATOR, DESCRIPTION AND OPERATING PROCEDURES, COMMON SYSTEMS
SD-97812-01	COMMON SYSTEMS REMOTE RECORD CONCENTRATOR. EQUIPMENT DRAWINGS
SD-5D130-01	5ESS SWITCHING EQUIPMENT MISCELLANEOUS CABINET (6 FT) CIRCUIT
J5D005C-1	5ESS SWITCHING EQUIPMENT SPECIFICATIONS FOR MISCELLANEOUS CABINET

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CAD 1

TYPICAL 5ESS CONNECTION

16A ANNOUNCER

PIN NAME		DISTRIBUTION FRAME
AL1	→	AT00
ALR1	→	AR00
AL2	→	AT01
ALR2	→	AR01
AL3	→	AT02
ALR3	→	AR02
Y	→	AT03
YR	→	AR03
BR	→	AT04
BRR	→	AR04

TN220B
CIRCUIT PACK

INSTALLATION OF A FERRITE CORE IS REQUIRED.
SEE CAD 2

RCV T1	→	XMT TIP	OUT	ANN3B OR TN1611 CIRCUIT PACK
RCV R1	→	XMT RING		
XMT T2	→	RCV TIP	IN	
XMT R2	→	RCV RING		

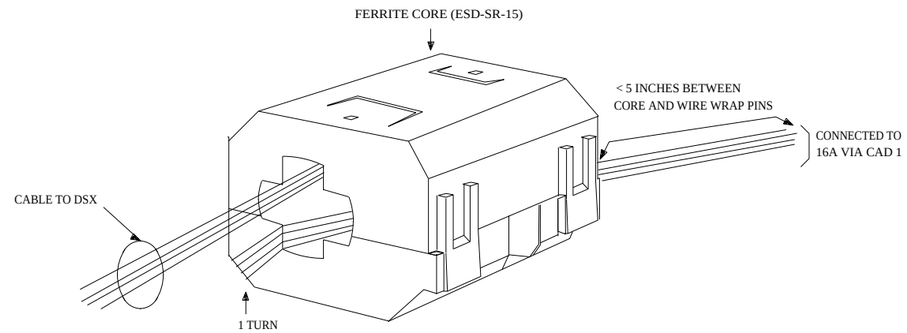
AUD1	→	T
AUD1R	→	R
AUD2	→	T
AUD2R	→	R
AUD3	→	T
AUD3R	→	R
AUD4	→	T
AUD4R	→	R

MUSIC OR OTHER EXTERNAL SOURCE

CAD 2

FERRITE CORE INSTALLATION

(SEE SHEET NOTE 1)



SHEET NOTE:

1. A SPLIT CORE, SNAP-ON, FERRITE BEAD (ESD-SR-15) IS SHIPPED WITH EACH 16A UNIT AND MUST BE INSTALLED AS SHOWN. THE CORE MUST ENCLOSE ONE TURN OF THE FOUR T1 INPUT LEADS AND SHOULD BE INSTALLED NO MORE THAN 5 INCHES AWAY FROM THE WIRE WRAPPED PINS ON THE 16A BACKPLANE.

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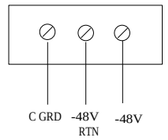
CAD 3

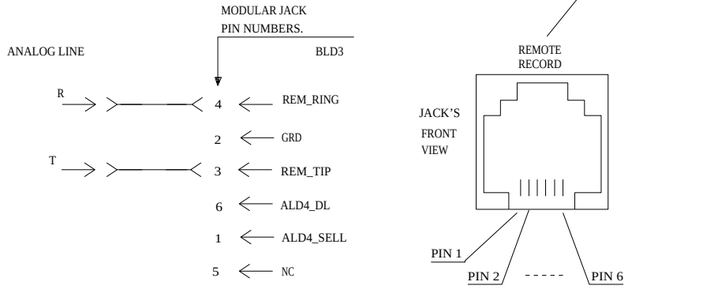
TERMINAL BLOCK CONNECTION



CAD 4

(OPTIONAL CABLING)

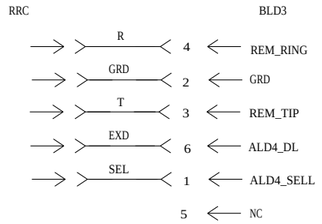
CONNECTION TO ANALOG LINE



CAD 5

(OPTIONAL CABLING)

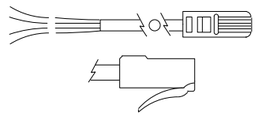
CONNECTION TO THE REMOTE RECORD CONCENTRATOR
(SD-97812-01)



NOTE:

IN GENERAL CONNECTIONS PER CAD 4 AND 5 ARE MADE THROUGH A DISTRIBUTION FRAME.
USE CABLE WITH 6 PIN MODULAR PLUG ON ANNOUNCER SIDE AND SOLID WIRES ON WIRING SIDE.
CONTACT YOUR REGIONAL ENGINEER TO OBTAIN INFORMATION ON THE REQUIRED CABLES.
TABLE 2 GIVES INFORMATION ON THESE CABLES.

TABLE 2



FOR CAD 4 THE FOLLOWING CABLES MAY BE USED:

DW4A-SE: DISTRIBUTION CORD CONSISTING OF FOUR POLYETHYLENE INSULATED 24 AWG SOLID COPPER CONDUCTORS IN A POLYVINYL CHLORIDE JACKET WITH A 6-POSITION POLYCARBONATE PUSH-TO-LOCK TYPE PLUG ON ONE END AND FOUR COLOR-CODED INDIVIDUAL INSULATED FREE CONDUCTORS ON THE OTHER END. INTENDED FOR USE IN RESIDENTIAL OR BUSINESS INSTALLATIONS.

CODE NO	COLOR	LENGTH	COMCODE
DW4A-SE	LT. OLIVE GRAY	2FT.(0.6M)	103848792
DW4A-SE	LT. OLIVE GRAY	10FT.(3.0M)	103895660
DW4A-SE	LT. OLIVE GRAY	25FT.(7.6M)	103796678
DW4A-SE	LT. OLIVE GRAY	50FT.(15.2M)	103796694
DW4A-SE	LT. OLIVE GRAY	75FT.(22.8M)	103796710
DW4A-SE	LT. OLIVE GRAY	100FT.(30.4M)	103895678

FOR CAD 5 SPECIFY CABLES:

PER ED-5D621-11, GROUP 61 AND ED-5D621-35, GROUP 137.
THIS CABLES ARE SIMILAR TO THE ABOVE CABLES BUT HAVE 6 SOLID COPPER CONDUCTORS.
CABLES CAN ALSO BE OBTAINED FROM GNWC (SEE NOTE 1 IN SHEET G5). SPECIFY A (4 OR 6) PIN PLUG WITH THE REQUIRED NUMBERS OF SOLID CONDUCTORS AND THE REQUIRED LENGTH.

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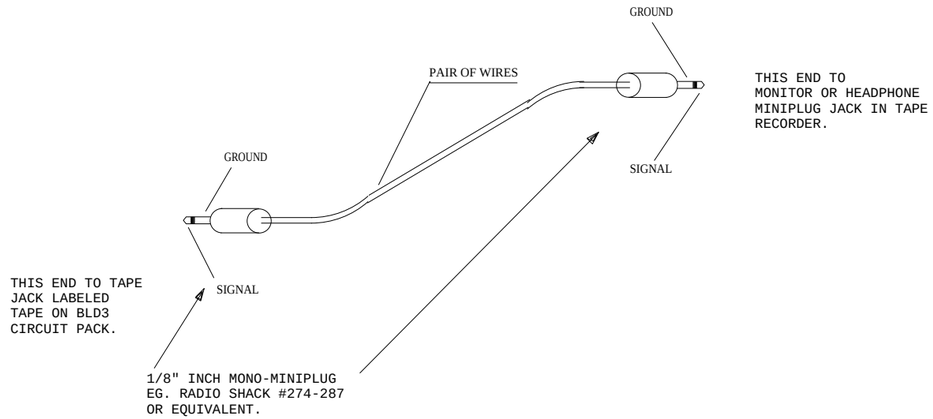
CAD 6



THIS END TO MONITOR OR HEADPHONE MINIPLUG JACK IN TAPE RECORDER.

THIS END TO TAPE JACK LABELED TAPE ON BLD3 CIRCUIT PACK.

1/8" INCH MONO-MINIPLUG
EG. RADIO SHACK #274-287
OR EQUIVALENT.

SHEET NOTE:
SOME TAPE RECORDERS MAY HAVE AN 1/4" PHONO PLUG. IN THIS CASE USE RADIO SHACK 274-1536 1/4" MONO PLUG OR EQUIVALENT.

16A ANNOUNCEMENT SYSTEM CIRCUIT		NOVEMBER 15, 1993
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MISCELLANEOUS NOTES

NOTE: THE 16A SYSTEM IS FULLY COMPLIANT WITH FCC PART 15 CLASS A EMI LEVELS. INSTALLATION OF A FERRITE CORE AS PER CAD 2 IS REQUIRED. THE 16A DOES NOT PRODUCE UNUSUAL LEVELS OF RADIATED NOISE NOR IS IT SUSCEPTIBLE TO THE NORMAL LEVELS OF RADIATED NOISE FOUND IN A TYPICAL CENTRAL OFFICE.

NOTES:

1. TO INTERFACE A CASSETTE RECORDER TO THE TAPE RECORDER JACK ON THE BLD3 CIRCUIT PACK, USE RADIO SHACK CABLE, PART NUMBER 42-2420 OR AT&T ST700 (6FT) C.C. 401973599 (SEE CAD 6).

2. A HANDSET, USED TO MONITOR AND RECORD MESSAGES LOCALLY, CAN BE ORDERED FROM "WALKER EQUIPMENT COMPANY, 151 HWY SOUTH, RINGGOLD, GEORGIA 30736.
   PHONE: 706-935-2600

PART NUMBER	
W3-500CM-OP-00	(BLACK)
W3-500CM-OP-09	(IVORY)
W3-500CM-OP-10	(PEARL)
W3-500CM-OP-13	(BEIGE)
W3-500CM-OP-15	(WHITE)
W3-500CM-OP-44	(ASH)
W3-500CM-OP-45	(BROWN)
W3-500CM-OP-47	(RED)

3. RECORDING/MONITORING CAN BE ACCOMPLISHED FROM A REMOTE LOCATION USING A STANDARD TOUCH TONE TELEPHONE. IF A RECORDING IS MADE FROM A REMOTE LOCATION VIA A TAPE RECORDER AND TAPE, THE 602A TELEPHONE TAPE RECORDER ADAPTER J1C267A-1, LIST 6, C.C. 106046469, COULD BE USED IN ADDITION TO THE TOUCH TONE TELEPHONE. THE 602A TELEPHONE TAPE RECORDER ADAPTOR IS NOT COMPATIBLE WITH ALL TELEPHONE SETS AVAILABLE IN THE MARKET. THE AT&T 100 OR EQUIVALENT IS RECOMMENDED. THIS TELEPHONE SET CAN BE OBTAIN FROM YOUR LOCAL AT&T PHONE CENTER OR CALL THE NATIONAL SALES OFFICE AT 1-800-222-3111.

4. FOR ADDITIONAL INFORMATION OR TECHNICAL ASSISTANCE, PLEASE CONTACT YOUR AT&T ACCOUNT REPRESENTATIVE OR CALL 800-352-5563. TECHNICAL SUPPORT FOR WIRELESS APPLICATIONS CAN BE OBTAINED BY CALLING THE AUTOPLEX CUSTOMER DIAGNOSTICS CENTER AT 1-800-225-4672.

5. FOR TECHNICAL INFORMATION REGARDING YOUR NEEDS ON RECORDED ANNOUNCEMENT TAPES CALL 1-800-352-5563.

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