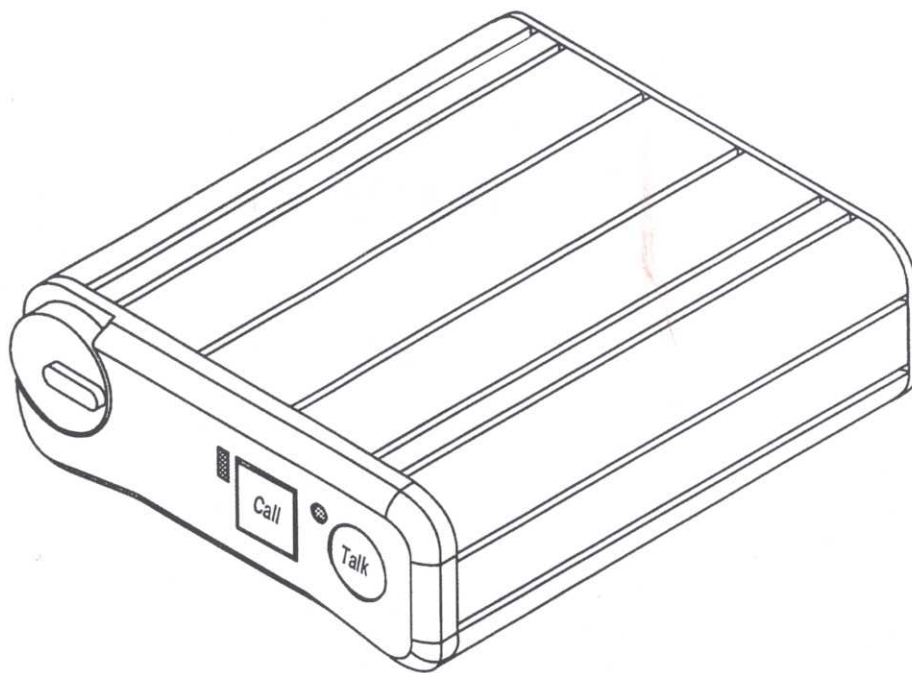


USER MANUAL

BP-318

Portable Programmable User Station



RTS™

PROPRIETARY NOTICE

The RTS product information and design disclosed herein were originated by and are the property of Telex Communications, Inc. Telex reserves all patent, proprietary design, manufacturing, reproduction, use and sales rights thereto, and to any article disclosed therein, except to the extent rights are expressly granted to others.

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UNPACKING AND INSPECTION

Immediately upon receipt of the equipment, inspect the shipping container and the contents carefully for any discrepancies or damage. Should there be any, notify the freight company and the dealer at once.

WARRANTY INFORMATION

RTS products are warranted by Telex Communications, Inc. to be free from defects in materials and workmanship for a period of three years from the date of sale.

The sole obligation of Telex during the warranty period is to provide, without charge, parts and labor necessary to remedy covered defects appearing in products returned prepaid to Telex. This warranty does not cover any defect, malfunction or failure caused beyond the control of Telex, including unreasonable or negligent operation, abuse, accident, failure to follow instructions in the Service Manual or the User Manual, defective or improper associated equipment, attempts at modification and repair not authorized by Telex, and shipping damage. Products with their serial numbers removed or effaced are not covered by this warranty.

To obtain warranty service, follow the procedures entitled "Procedure For Returns" and "Shipping to Manufacturer for Repair or Adjustment".

This warranty is the sole and exclusive express warranty given with respect to RTS products. It is the responsibility of the user to determine before purchase that this product is suitable for the user's intended purpose.

ANY AND ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY ARE LIMITED TO THE DURATION OF THIS EXPRESS LIMITED WARRANTY.

NEITHER TELEX NOR THE DEALER WHO SELLS RTS PRODUCTS IS LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND.

CUSTOMER SUPPORT

Technical questions should be directed to:

Customer Service Department
RTS/Telex,
2550 Hollywood Way, Suite 207
Burbank, CA 91505 U.S.A.
Telephone: (818) 566-6700
Fax: (818) 843-7953

RETURN SHIPPING INSTRUCTIONS

PROCEDURE FOR RETURNS

If a repair is necessary, contact the dealer where this unit was purchased.

If repair through the dealer is not possible, obtain a RETURN AUTHORIZATION from:

Customer Service Department
Telex Communications, Inc.
Telephone: (800) 828-6107
Fax: (800) 323-0498

DO NOT RETURN ANY EQUIPMENT DIRECTLY TO THE FACTORY WITHOUT FIRST OBTAINING A RETURN AUTHORIZATION.

Be prepared to provide the company name, address, phone number, a person to contact regarding the repair, the type and quantity of equipment, a description of the problem and the serial number(s).

SHIPPING TO MANUFACTURER FOR REPAIR OR ADJUSTMENT

All shipments of RTS products should be made via United Parcel Service or the best available shipper, prepaid. The equipment should be shipped in the original packing carton; if that is not available, use any suitable container that is rigid and of adequate size. If a substitute container is used, the equipment should be wrapped in paper and surrounded with at least four inches of excelsior or similar shock-absorbing material. All shipments must be sent to the following address and must include the Return Authorization.

Factory Service Department
Telex Communications, Incorporated
West 1st Street
Blue Earth, MN 56013 U.S.A.

Upon completion of any repair the equipment will be returned via United Parcel Service or specified shipper collect.

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SECTION 1: DESCRIPTION AND SPECIFICATIONS

DESCRIPTION

GENERAL

The BP-318 is a portable user station for use with RTS 2-wire intercom systems. The BP-318 is a microprocessor controlled one channel intercom belt pack with connections for headset microphone or separate carbon microphone.

FEATURES

Features of the BP-318 include:

- Call function that allows the user to send or receive signals to other devices on the intercom channel, including Audible Call Alert
- Microprocessor controlled Microphone Kill
- Powered externally, via the intercom system power supply on channel one
- Headset/earset jack set for intercom operation

CONNECTIONS & CONTROLS

The BP-318 has the following connections and controls:

- Intercom volume control
- Headset connectors that accept either an XLR type 4-pin male connector or a 1/4" stereo phone plug
- Line connector that accepts an XLR type 3-pin male connector for intercom line and power input

SPECIFICATIONS

GENERAL

Channel Supplied Power Requirements:

30 VDC nominal (standard RTS line), 45 to 70 mA

Environmental Requirements:

Storage: -20°C to 80°C; 0% to 95% humidity, non-condensing
Operating: 0°C to 50°C; 0% to 95% humidity, non-condensing

Dimensions:

5.0" (127 mm) H x 3.5" (88.9 mm) W x
1.8" (45.7 mm) D

Weight:

1.5 pounds (0.68 kg)

INTERFACE REQUIREMENTS

Headset:

50 to 200Ω dynamic microphone
50 to 600Ω headphones

RTS Intercom Channel:

Output Level: 0.775 Vrms (0 dBu) nominal
Input Impedance: 200Ω ±5%
Bridging Impedance: greater than 10,000Ω
Call Signalling:
Send: 20 kHz ±100 Hz, 0.5 Vrms ±10%
Receive: 20 kHz ±800 Hz, 100 mVrms
Mic-Off Frequency Detect:
24 kHz ±800 Hz, 100 mVrms

Noise Contribution:

less than -60 db on the line

Common Mode Rejection Ratio:

greater than 40 dB from the line

HEADPHONE AMPLIFIER

Voltage Gain:

27 ±3 dB from the line

Maximum Output:

60 mW into 150Ω

Frequency Response:

200 Hz to 8 kHz +1/-3db

Audible Alert:

1 kHz, at the headset

Total Harmonic Distortion:

Less than 0.2% at 50 mW from the line

Sidetone:

20 dB minimum range, adjustable

DYNAMIC MICROPHONE AMPLIFIER:

Voltage Gain:

Mic to Channel; 45 ±3 dB, before limiting
Mic to Headphone; adjustable, 65 dB range into 150Ω

Frequency Response:

200 Hz to 8 kHz +1/-3db

Total Harmonic Distortion:

Less than 0.2% at Channel output

ELECTRET MICROPHONE AMPLIFIER:

Voltage Gain:

Mic to Channel; 27 ±3 dB, before limiting
Mic to Headphone; adjustable, 45 dB ±10% into 150Ω

Frequency Response:

200 Hz to 8 kHz +1/-3db

Total Harmonic Distortion:

Less than 0.2% at Channel output

CONNECTOR PIN CONFIGURATIONS**Headset Connector**

Type: 1/4" Stereo Plug

Tip	Microphone input high
Ring	Headphone high
Sleeve	Common

Intercom Channel Connector

Type: XLR-3F

Pin 1	Common
Pin 2	+30 VDC input
Pin 3	Intercom channel 2 (audio)

Headset Connector

Type: XLR-4F

Pin 1	Headset microphone low
Pin 2	Headset microphone high
Pin 3	Headphone low
Pin 4	Headphone high

SECTION 2: OPERATION

EXTERNAL CONNECTIONS & CONTROLS

NOTE: The numbers refer to the callouts in Figure 2-1.

1. Volume Control

Use this control to adjust the headset/earset listen level.

2. Call Button and Indicator

The Call function allows the user to send or receive signals to other devices on the intercom channel selected. The *Call* button operates in two ways:

Call receive:

When there is an incoming call signal, the indicator is red. (If Audible Call Alert is enabled, incoming calls will cause beeps in the headset.)

Call send:

To send a call signal to all stations on a channel, press and hold the *Call* button until a verbal response is received. The indicator will glow red.

3. Talk Button and Indicator

The *Talk* button activates the headset microphone and operates in two ways:

Latched Mode:

Tap the button once to talk. The indicator will glow green. Tap the button again when finished with a conversation.

Momentary Mode:

Press and hold the button to talk momentarily. Release the button when finished talking.

4. Sidetone Control

When using a headset, this control adjusts your own voice level heard in the earphones. To adjust the level, tap the *Talk* button once to turn on the headset microphone. Then, use a small flat-blade screwdriver to increase or decrease your voice level while talking into the microphone. (This control is accessible by removing one screw of belt clip.)

5. Headset Connector

This connector accepts an RTS boom-microphone headset.

6. Microphone Connector

This connector accepts a carbon microphone headset/earset with a 1/4" stereo phone plug.

7. Intercom Channel Connector

The BP-318 intercom channel is connected via a 3-pin female connector. The BP-318 is powered from the intercom system power supply and will turn on with the intercom system.

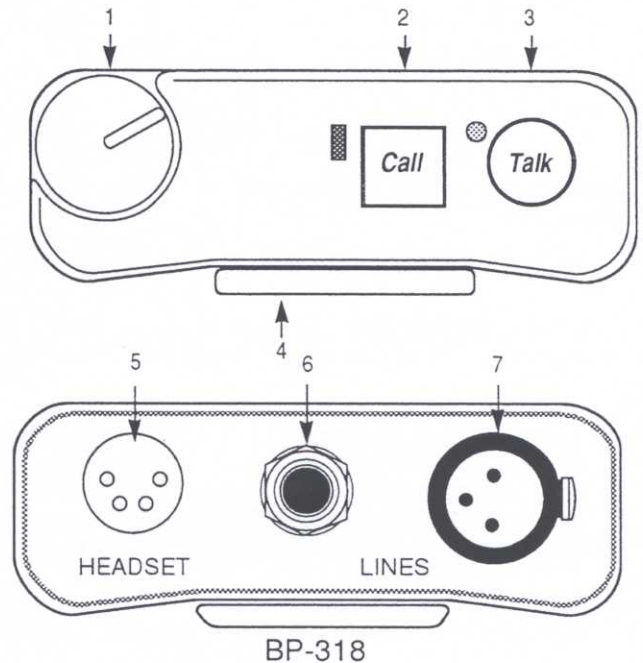


Figure 2-1. BP-318 Connections and Controls

BP-318 OPERATING MODES

The BP-318 uses four modes of operation to control the Microphone Kill and Audible Call Alert features. These features are described below:

Microphone Kill Feature:

When this feature is enabled and a Mic Kill signal is received from the intercom channel, the BP-318 microphone will be turned off.

When this feature is disabled, the Mic Kill signal will have no effect on microphones attached to the BP-318.

Audible Call Alert Feature:

When this feature is enabled, an audible beep will be heard in the headset whenever there is an incoming call from the intercom channel.

When this feature is disabled, no audible beep will be heard for incoming calls.

TABLE 2-1. OPERATING MODES

MODE (beeps)	MIC KILL	AUDIBLE CALL ALERT
1	Disabled	Disabled
2 (Default)	Enabled	Disabled
3	Disabled	Enabled
4	Enabled	Enabled

Changing Modes of Operation:

Perform the following steps to change the BP-318 mode of operation.

- Both the *Talk* and *Call* indicators should be off.
- Press and hold both the *Talk* and *Call* keys, then release both keys. The *Call* indicator should now glow red.

(The number of beeps heard in the headset indicates the current mode of operation.)
- Press the *Call* key to change to the next mode of operation. Each press of the *Call* key will cause the BP-318 to change to the next mode of operation.
- When the desired mode is reached, press the *Talk* key to select that mode and exit the mode changing function.

NOTE: Each time the intercom system power is turned on, the BP-318 will reset to the default mode of operation (Mode 2).

INTERNAL SWITCHES, JUMPERS AND ADJUSTMENTS

There are several internal switches, jumpers and adjustments that affect operation. These are described below. To gain access to the switches, jumpers and adjustment, disconnect all power and line connections. Remove two screws from the top of each side of the case and two screws from the bottom of each side of the case. The jumper and switch locations are shown in Figure 2-2.

Side Tone Adjustment (R19)

The side tone adjustment is accessible either internally (refer to Figure 2-2) or by removing the belt clip mounting screw shown in Figure 2-1.

To adjust the level of your own voice heard in the earphones, tap the *Talk* button once to turn on the headset microphone. Then, use a small flat-blade screwdriver to increase or decrease your voice level while talking into the microphone.

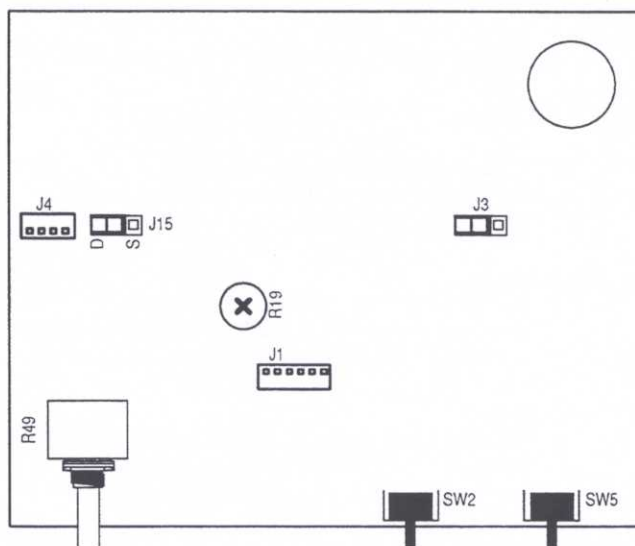


Figure 2-2. Internal Jumpers

TABLE 2-2. INTERNAL JUMPERS

JUMPER/ SWITCH NUMBER	JUMPER OR SWITCH FUNCTION	DEFAULT SETTING
J3	Power Source Selection Pins 1 & 2 shorted: No connection Pins 2 & 3 shorted: Channel one power source	Pins 2&3 shorted
J15	Differential / Single-ended Dynamic Mic Single-ended Mic: Pins 1&2 shorted Differential Mic: Pins 2&3 shorted	Pins 1&2 shorted

SECTION 3. REPLACEMENT PARTS

WHERE TO OBTAIN PARTS

Parts may be obtained directly from Telex at:

Telex/RTS Systems
9600 Aldrich Ave. So.
Minneapolis, MN 55420
800-828-6107
Fax: 800-323-0498

MECHANICAL PARTS

FINAL ASSEMBLY (Refer to Figure 4-1 for Item No. locations)		
Item No.	Description	Part No.
1	Case, BP318	90607374-011
2	Top Plate	90707374-007
3	Not Used	
4	Circuit Board Assembly	90307486-000
5	Knob, Nylon Body	9160563-601
6	Boot, Knob	9160563-602
7	Screw, 4-40 x 0.25, Flat Head	800124-000
8	Belt Clip	358776
9	Screw, 4-40 x 0.25, Pan Head	51845-038
10	Keypad	19067374-001
11	Plate	91107374-000
12	Pushnut	51900-002
13	Screw, 6-32 x 3/16, Pan Head	51845-073
14	Washer, Lock, Split, #6	50086-001

CONNECTOR PLATE ASSEMBLY (Refer to Figure 4-2 for Item No. locations)		
Item No.	Description	Part No.
1	Connector Plate	90807486-000
2	Connector, XLR-3F	40055-10
3	Connector, XLR-4F	40055-13
4	Jack, Phono, Stereo, 1/4"	2013001300
5	Connector, 6-pin	59958-006
6	Connector, 4-pin	59958-004
7	Contact, Connector	59958-200

ELECTRICAL PARTS

CIRCUIT BOARD ASSEMBLY (Refer to Figure 4-3)		
Ref. No.	Description	Part No.
C1	Support Bracket	64106-003
	Crystal Insulator	59225-500
	Capacitor, CM, SM, 18 pF, 50V	102879-135

CIRCUIT BOARD ASSEMBLY (Refer to Figure 4-3)		
Ref. No.	Description	Part No.
C2	Capacitor, CM, SM, 18 pF, 50V	102879-135
C3	Capacitor, EL, 47 μ F, 25V	51821-625
C4	Capacitor, EL, SM, 1 μ F, 50V	102884-606
C5	Capacitor, EL, SM, 10 μ F, 25V	102884-412
C6	Capacitor, CM, SM, 100 pF, 50V	102879-204
C7	Capacitor, EL, SM, 4.7 μ F, 35V	102884-510
C8	Capacitor, CM, SM, 1000 pF, 50V	102881-327
C9	Capacitor, CM, SM, 1000 pF, 50V	102881-327
C10	Capacitor, CM, SM, 1500 pF, 50V	102881-329
C11	Capacitor, CM, SM, 1500 pF, 50V	102881-329
C12	Capacitor, EL, SM, 4.7 μ F, 35V	102884-510
C13	Capacitor, CM, SM, 1000 pF, 50V	102881-327
C14	Capacitor, CM, SM, 1000 pF, 50V	102881-327
C15	Capacitor, EL, 470 μ F, 35V	517004-036
C16	Not Used	
C17	Capacitor, CM, SM, 0.01 μ F, 50V	102881-339
C18	Capacitor, CM, SM, 0.01 μ F, 50V	102881-339
C19	Capacitor, EL, SM, 4.7 μ F, 35V	102884-510
C20	Capacitor, EL, 100 μ F, 25V	51821-626
C21	Capacitor, CM, SM, 0.01 μ F, 50V	102881-339
C22	Capacitor, CM, SM, 0.1 μ F, 50V	102881-351
C23	Capacitor, CM, SM, 1000 pF, 50V	102881-327
C24	Capacitor, NP, 10 μ F, 25V	52710-078
C25	Capacitor, NP, 10 μ F, 25V	52710-078
C26	Capacitor, NP, 10 μ F, 25V	52710-078
C27	Capacitor, EL, SM, 4.7 μ F, 35V	102884-510
C29	Capacitor, CM, SM, 0.01 μ F, 50V	102881-339
C30	Capacitor, NP, 10 μ F, 25V	52710-078
C31	Capacitor, CM, SM, 0.1 μ F, 50V	102881-351
C32	Capacitor, CM, SM, 0.1 μ F, 50V	102881-351
C33	Capacitor, CM, SM, 0.01 μ F, 50V	102881-339
C34	Capacitor, EL, SM, 4.7 μ F, 35V	102884-510
C35	Capacitor, CM, SM, 0.01 μ F, 0V	102881-339
C36	Capacitor, EL, SM, 1 μ F, 50V	102884-606
C37	Capacitor, CM, SM, 0.1 μ F, 50V	102880-226
C38	Capacitor, CM, SM, 1500 pF, 50V	102879-218
C39	Capacitor, EL, SM, 1 μ F, 50V	102884-606
C40	Capacitor, EL, SM, 1 μ F, 50V	102884-606
C41	Capacitor, EL, SM, 1 μ F, 50V	102884-606
C42	Capacitor, CM, SM, 100 pF, 50V	102879-144
C43	Capacitor, EL, SM, 1 μ F, 50V	102884-606
C44	Capacitor, EL, 100 μ F, 25V	51821-626
C45	Not Used	
C46	Capacitor, CM, SM, 150 pF, 50V	102879-206
C47	Capacitor, CM, SM, 100 pF, 50V	102879-144
C48	Capacitor, CM, SM, 0.01 μ F, 50V	102881-339
C49	Capacitor, CM, SM, 100 pF, 50V	102879-204
C50	Not Used	
C51	Capacitor, EL, SM, 4.7 μ F, 35V	102884-510
C52	Capacitor, EL, SM, 4.7 μ F, 35V	102884-510
C53	Capacitor, CM, SM, 0.01 μ F, 50V	102881-339
C54	Capacitor, CM, SM, 0.01 μ F, 50V	102881-339
C55-C59	Not Used	

CIRCUIT BOARD ASSEMBLY (Refer to Figure 4-3)		
Ref. No.	Description	Part No.
C60	Capacitor, CM, SM, 0.01 μ F, 50V	102881-339
C61-C64	Not Used	
C65	Capacitor, CM, SM, 1000 pF, 50V	102881-327
C66	Not Used	
C67	Capacitor, EL, SM, 10 μ F, 25V	102884-412
C68	Not Used	
C69	Capacitor, CM, SM, 0.33 μ F, 50V	102880-239
C70	Capacitor, CM, SM, 0.1 μ F, 50V	102881-351
D1	Diode, SM, Silicon, 100V	58711-201
D2	Diode, SM, Silicon, 100V	58711-201
D3	Diode, SM, Silicon, 100V	58711-201
D4	Diode, SM, Switching, BAV70	102252-000
D5	Not Used	
D6	Diode, SM, Switching, BAW56	102253-000
D7, D8	Not Used	
D9	Diode, SM, Silicon, 100V	58711-201
D10	Diode, SM, Silicon, 100V	58711-201
DS1, DS2	Not Used	
DS3	LED, T-1, Green	58714-000
DS4	LED, Rectangular, Red	58685-100
J1	Connector, ST Locking, 0.059, M-6	59958-106
J2	Not Used	
J3	Connector, ST Header, 0.100, M-3	590089-003
J4	Connector, ST Locking, 0.059, M-4	59958-104
J5-J14	Not Used	
J15	Connector, ST Header, 0.100, M-3	590089-003
Q1	Transistor, SM, SI, NPN, MMBTA13	54749-000
Q2	Transistor, SM, SI, NPN, MMBTA13	54749-000
Q3-Q5	Not Used	
Q6	Transistor, SM, P-FET, SST175	54687-201
Q7	Transistor, SM, SI, NPN, MMBTA13	54749-000
Q8	Transistor, SM, SI, NPN, MMBTA13	54749-000
Q9	Transistor, SM, SI, NPN, MMBTA13	54749-000
Q10	Transistor, SM, SI, NPN, MMBTA13	54749-000
Q11	Transistor, SM, SI, NPN, MMBTA13	54749-000
Q12-Q14	Not Used	
Q15	Transistor, SM, SI, NPN, MMBTA13	54749-000
R1	Resistor, SM, 22.1 k Ω , 1%, 1/8W	102404-333
R2	Resistor, SM, 22.1 k Ω , 1%, 1/8W	102404-333
R3	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R4	Resistor, SM, 100 k Ω , 1%, 1/8W	102404-400
R5-R12	Not Used	
R13	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R14	Resistor, SM, 47 k Ω , 5%, 1/8W	102513-473
R15	Resistor, SM, 47 k Ω , 5%, 1/8W	102513-473
R16	Resistor, SM, 10 Ω , 5%, 1/8W	102513-100
R17	Resistor, SM, 150 k Ω , 5%, 1/8W	102513-154
R18	Resistor, SM, 10 Ω , 5%, 1/8W	102513-100
R19	Potentiometer, 10 k Ω , 1/3w	57148-069

CIRCUIT BOARD ASSEMBLY (Refer to Figure 4-3)		
Ref. No.	Description	Part No.
R20	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R21	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R22	Resistor, SM, 20 k Ω , 1%, 1/8W	102404-329
R23	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R24	Resistor, SM, 124 Ω , 1%, 1/8W	102404-109
R25	Resistor, SM, 124 Ω , 1%, 1/8W	102404-109
R26	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R27	Resistor, SM, 20 k Ω , 1%, 1/8W	102404-329
R28	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R29	Resistor, SM, 75 k Ω , 5%, 1/8W	102513-753
R30	Not Used	
R31	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R32	Resistor, SM, 20 k Ω , 1%, 1/8W	102404-329
R33	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R34	Resistor, SM, 10 Ω , 5%, 1/8W	102513-100
R35	Resistor, SM, 75 k Ω , 5%, 1/8W	102513-753
R36	Resistor, SM, 100 k Ω , 5%, 1/8W	102513-104
R37	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R38	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R39	Resistor, SM, 100 k Ω , 5%, 1/8W	102513-104
R40	Resistor, SM, 6.8 k Ω , 5%, 1/8W	102513-682
R41	Resistor, SM, 100 k Ω , 5%, 1/8W	102513-104
R42	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R43	Resistor, SM, 20 k Ω , 1%, 1/8W	102404-329
R44	Resistor, SM, 100 k Ω , 5%, 1/8W	102513-104
R45	Not Used	
R46	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R47	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R48	Not Used	
R49	Potentiometer, 10 k Ω , 10%, 0.05W	54131-005
R50	Resistor, SM, 22 k Ω , 5%, 1/8W	102513-223
R51	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R52	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R53	Resistor, SM, 10 Ω , 5%, 1/8W	102513-100
R54	Resistor, SM, 20 k Ω , 1%, 1/8W	102404-329
R55	Resistor, SM, 10 Ω , 5%, 1/8W	102513-100
R56	Resistor, SM, 10 Ω , 5%, 1/8W	102513-100
R57	Resistor, SM, 15 k Ω , 5%, 1/8W	102513-153
R58	Resistor, SM, 51 k Ω , 5%, 1/8W	102513-513
R59	Resistor, SM, 3.9 k Ω , 5%, 1/8W	102513-392
R60	Resistor, SM, 100 k Ω , 5%, 1/8W	102513-104
R61	Resistor, SM, 1.5 k Ω , 5%, 1/8W	102513-152
R62	Resistor, SM, 3.9 k Ω , 5%, 1/8W	102513-392
R63	Resistor, SM, 51 k Ω , 5%, 1/8W	102513-513
R64	Resistor, SM, 15 k Ω , 5%, 1/8W	102513-153
R65	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R66	Resistor, SM, 20 k Ω , 1%, 1/8W	102404-329
R67	Resistor, SM, 10 Ω , 5%, 1/8W	102513-100
R68	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R69	Resistor, SM, 20 k Ω , 1%, 1/8W	102404-329
R70	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300
R71	Resistor, SM, 10 k Ω , 1%, 1/8W	102404-300

SECTION 4. DIAGRAMS

Drawing Number	Title
9010-7486-000	Figure 4-1. Final Assembly, Model BP-318
9020-7486-000	Figure 4-2. Connector Plate Assembly, Model BP-318
9030-7486-000	Figure 4-3. PC Board Assembly, Model BP-318
9027-7486-000	Figure 4-4. Schematic, Sheet 1 of 4, Model BP-318
9027-7486-000	Figure 4-5. Schematic, Sheet 2 of 4, Model BP-318
9027-7486-000	Figure 4-6. Schematic, Sheet 3 of 4, Model BP-318
9027-7486-000	Figure 4-7. Schematic, Sheet 4 of 4, Model BP-318

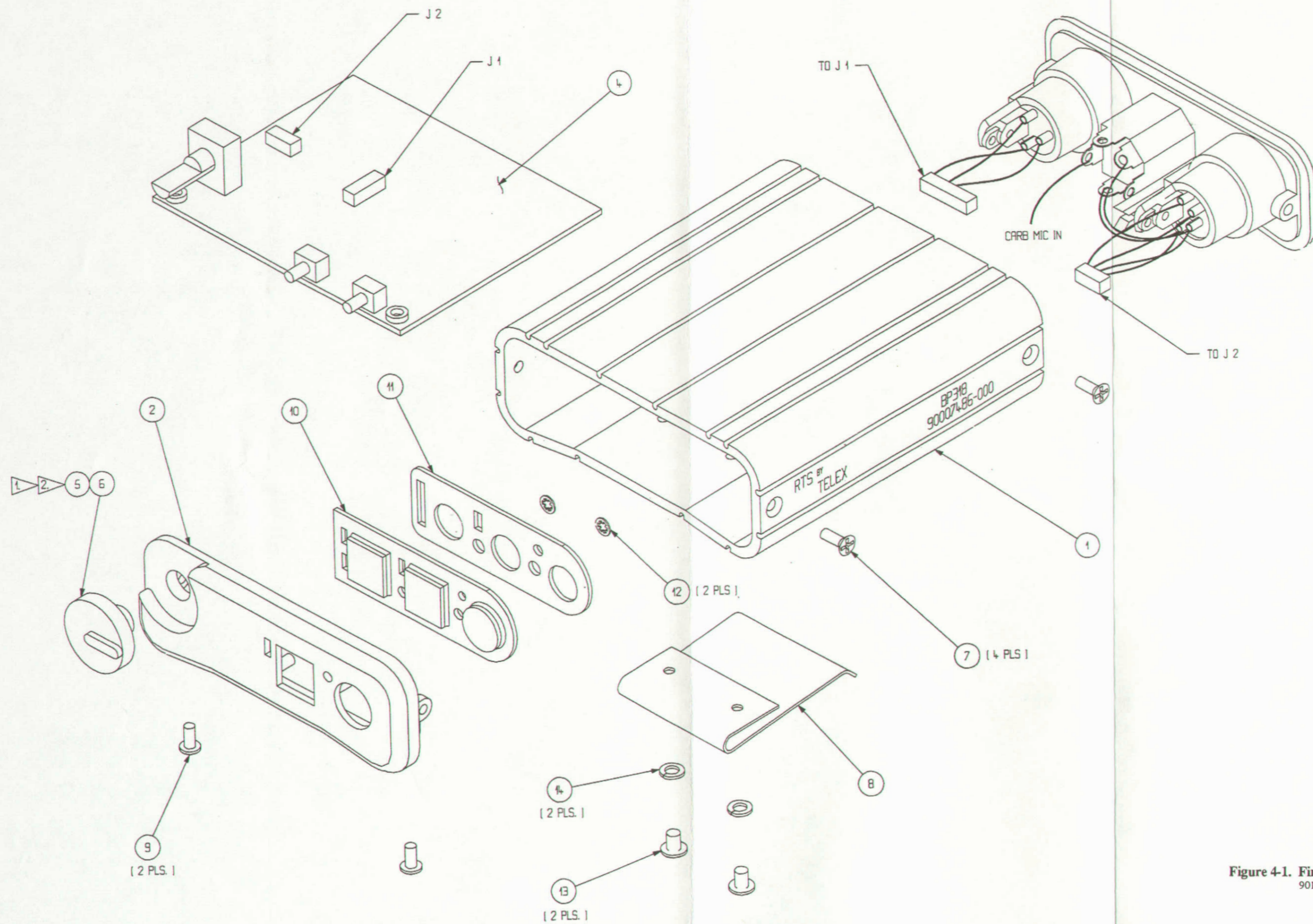
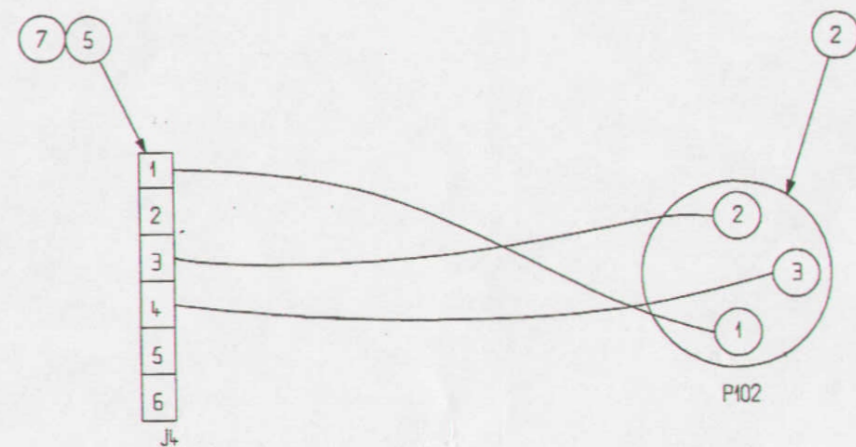


Figure 4-1. Final Assembly, BP-318
9010-7486-000



[3 PLS]

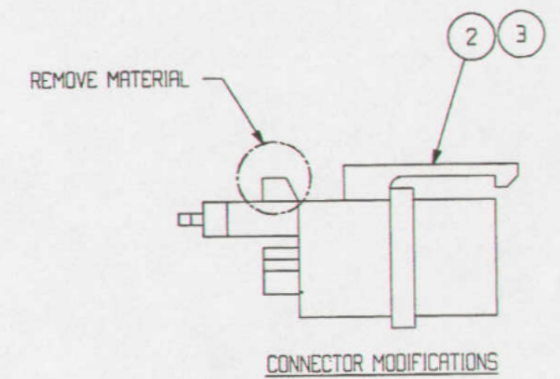
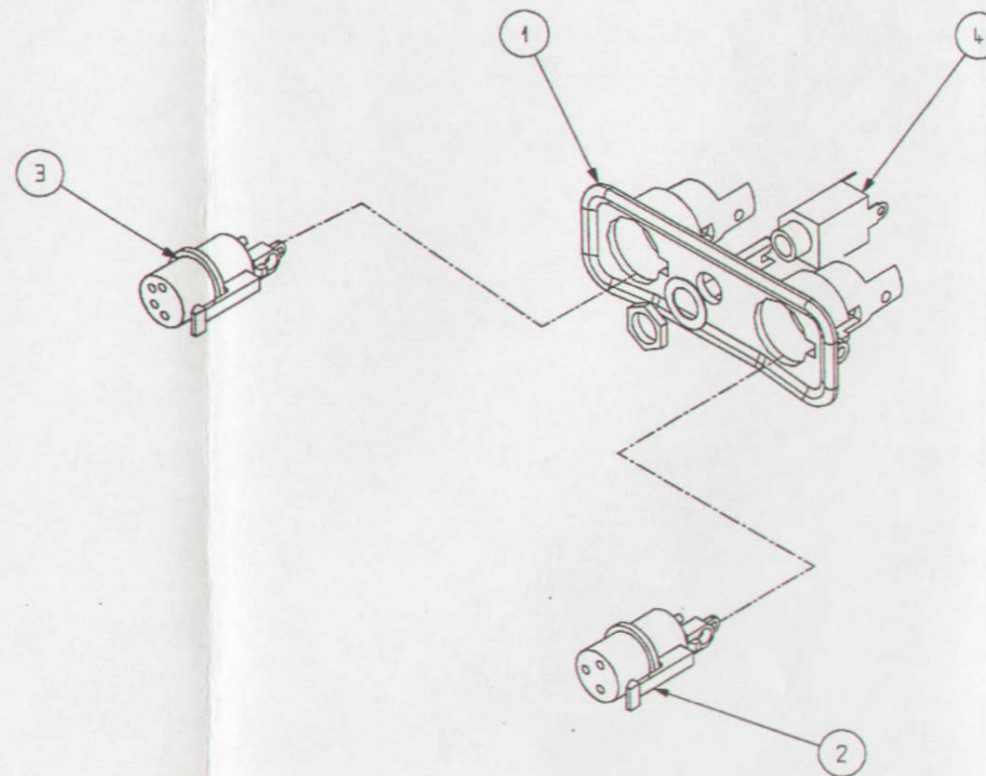
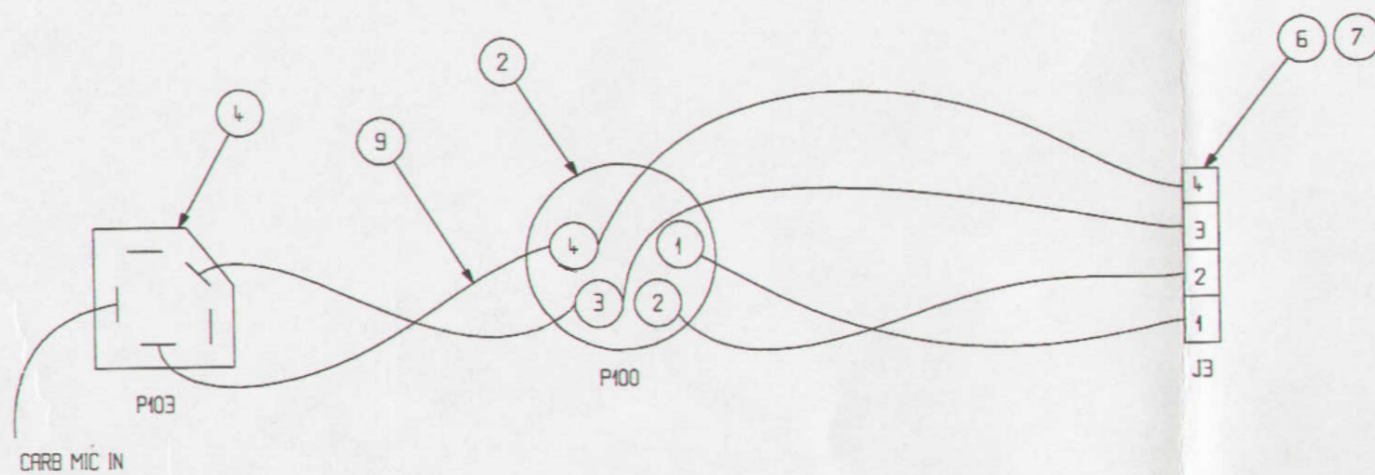


Figure 4-2. Connector Plate Assembly, BP-318
9020-7486-000

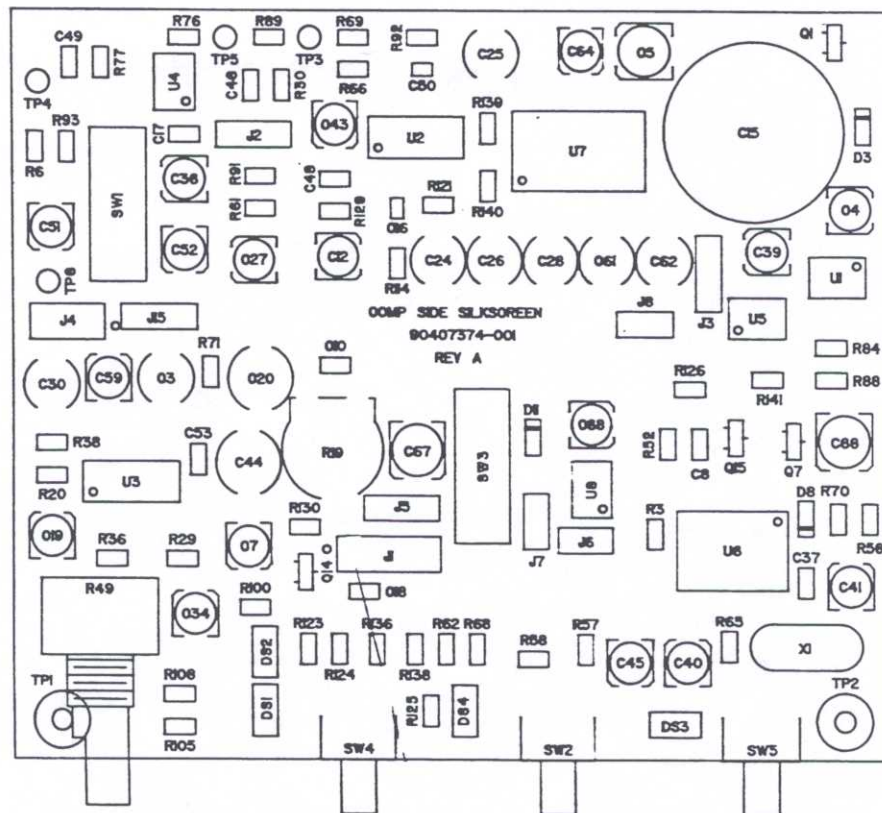
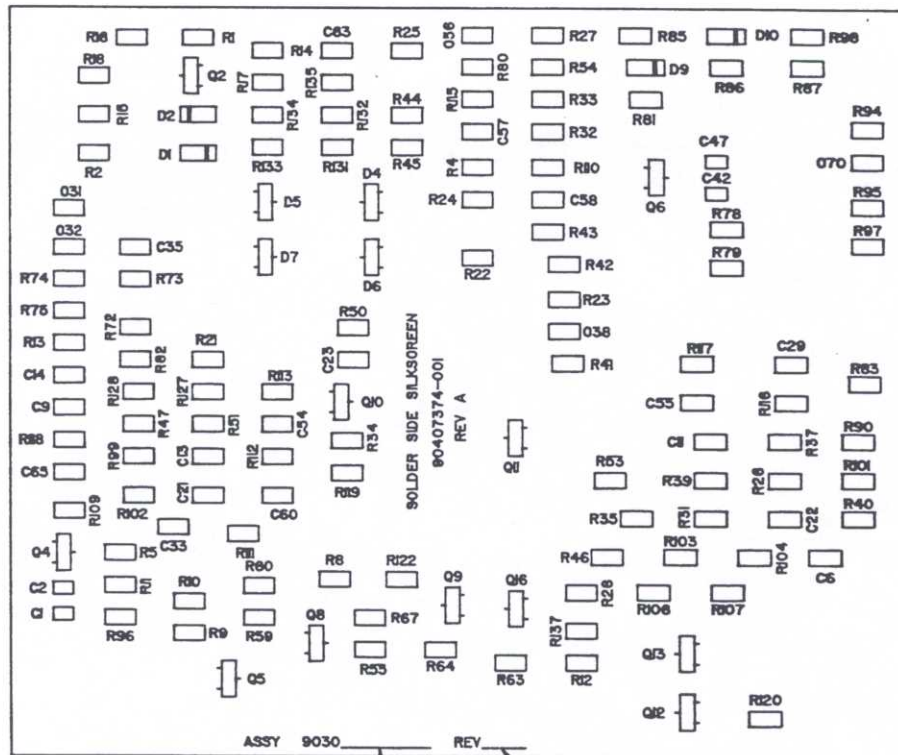


Figure 4-3. PC Board Assembly, BP-318
9030-7486-000

NOTES:

1. ALL CAPACITORS TO BE μF UNLESS OTHERWISE SPECIFIED.
2. ALL RESISTORS TO BE OHMS, 1/8W, 5%, UNLESS OTHERWISE SPECIFIED.
3. LAST REF DES USED: C70, D10, D54, J16, Q15, R146, SWS, TP6, U6, X1.

5. PART WHICH IS NOT STUFFED, BUT SHOWS A FOOTPRINT ON THE PC BOARD.

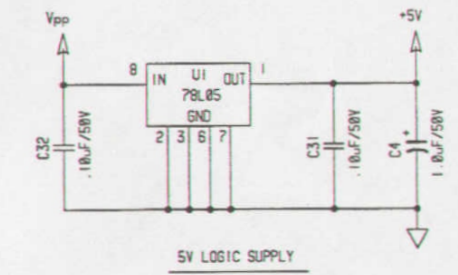
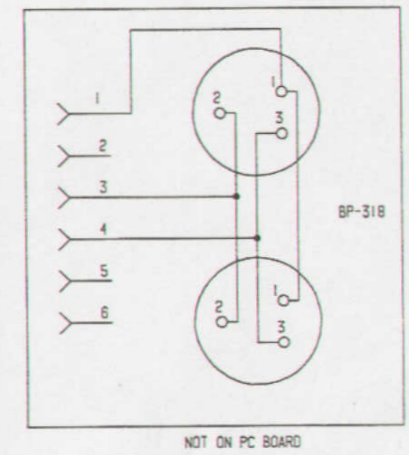
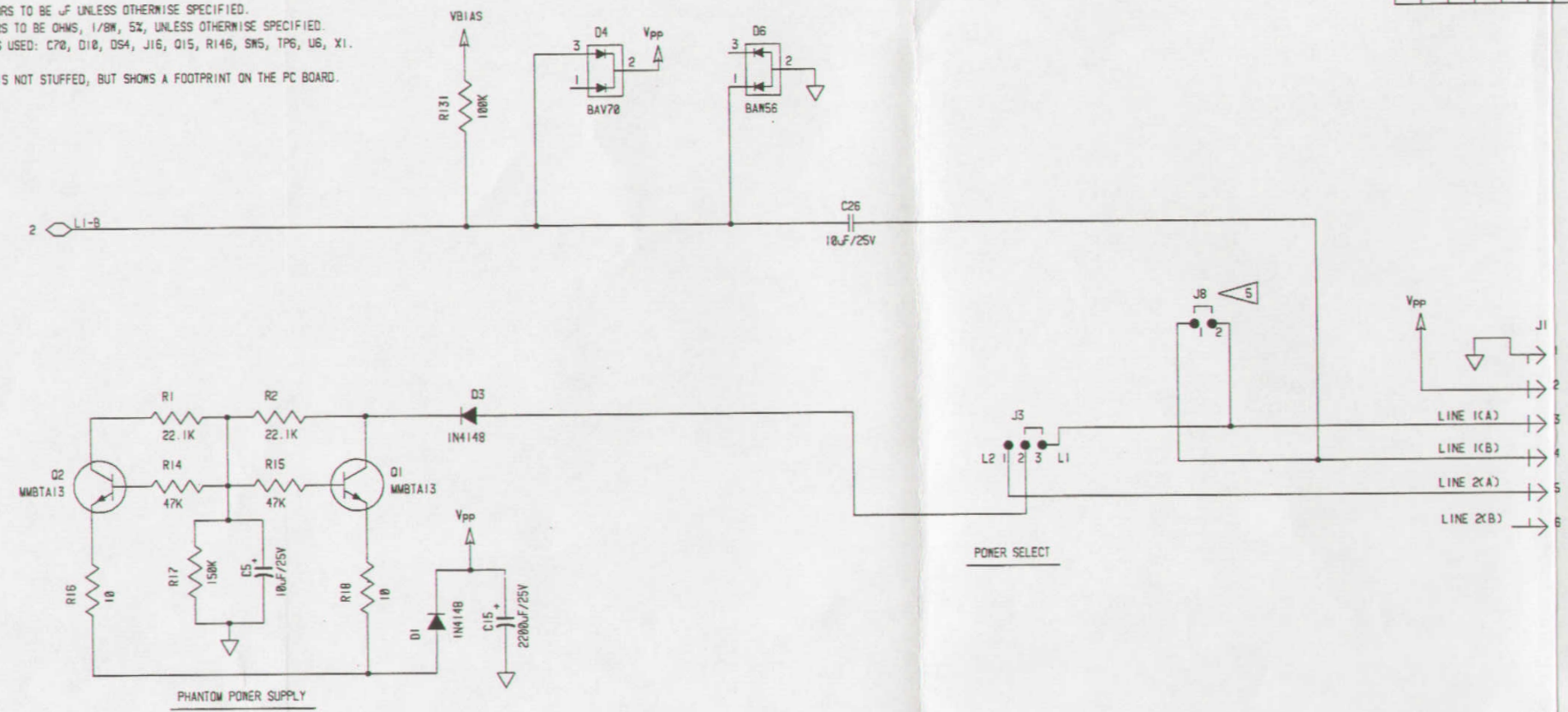


Figure 4-4. Schematic, BP-318
9027-7486-000, Sheet 1

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DATE	8-25-94					
BP-318	90277486					SIZE DWS. NO. 90277486
MODEL	NEXT ASS'Y					SHT 1 OF 4

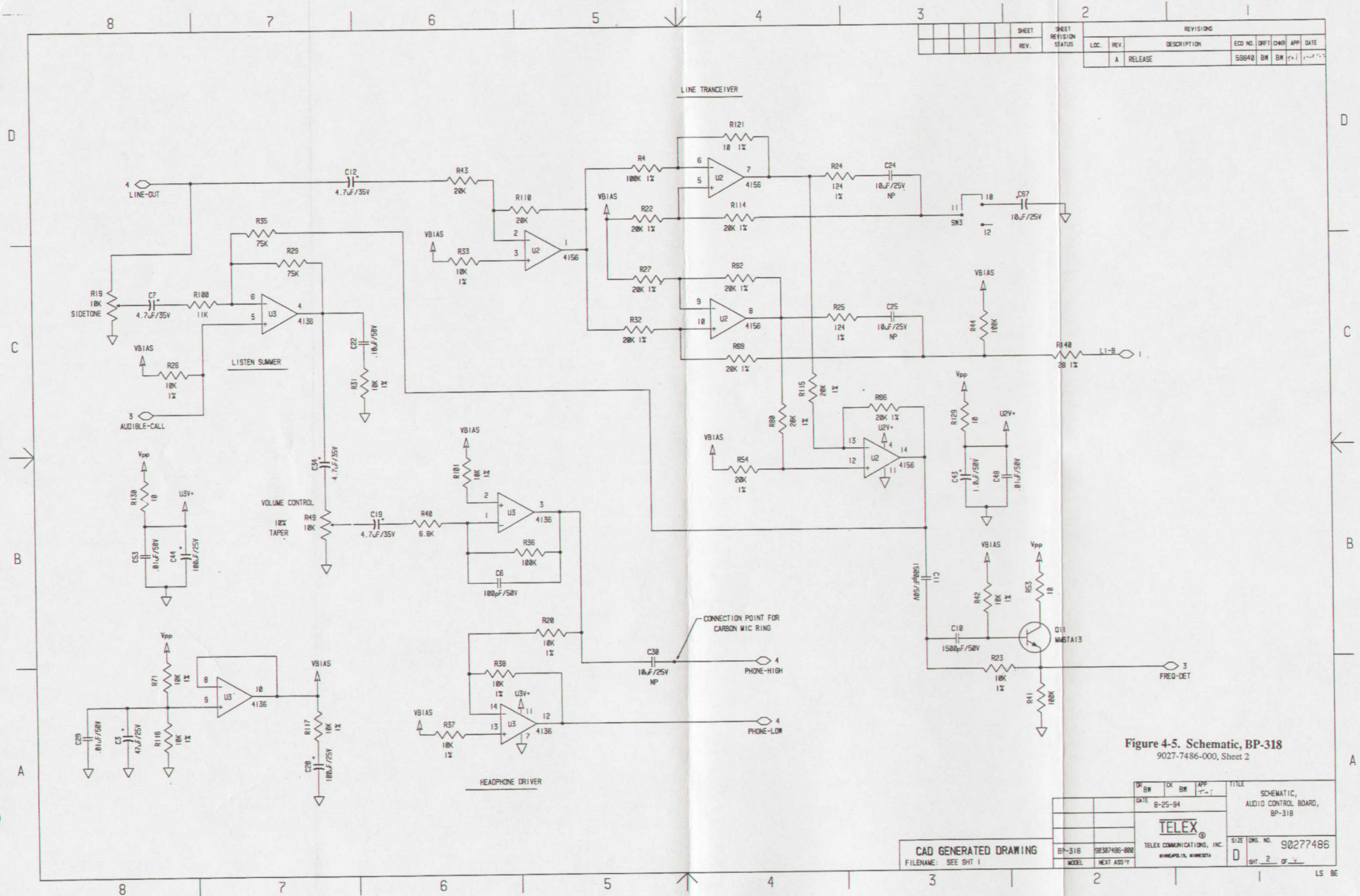
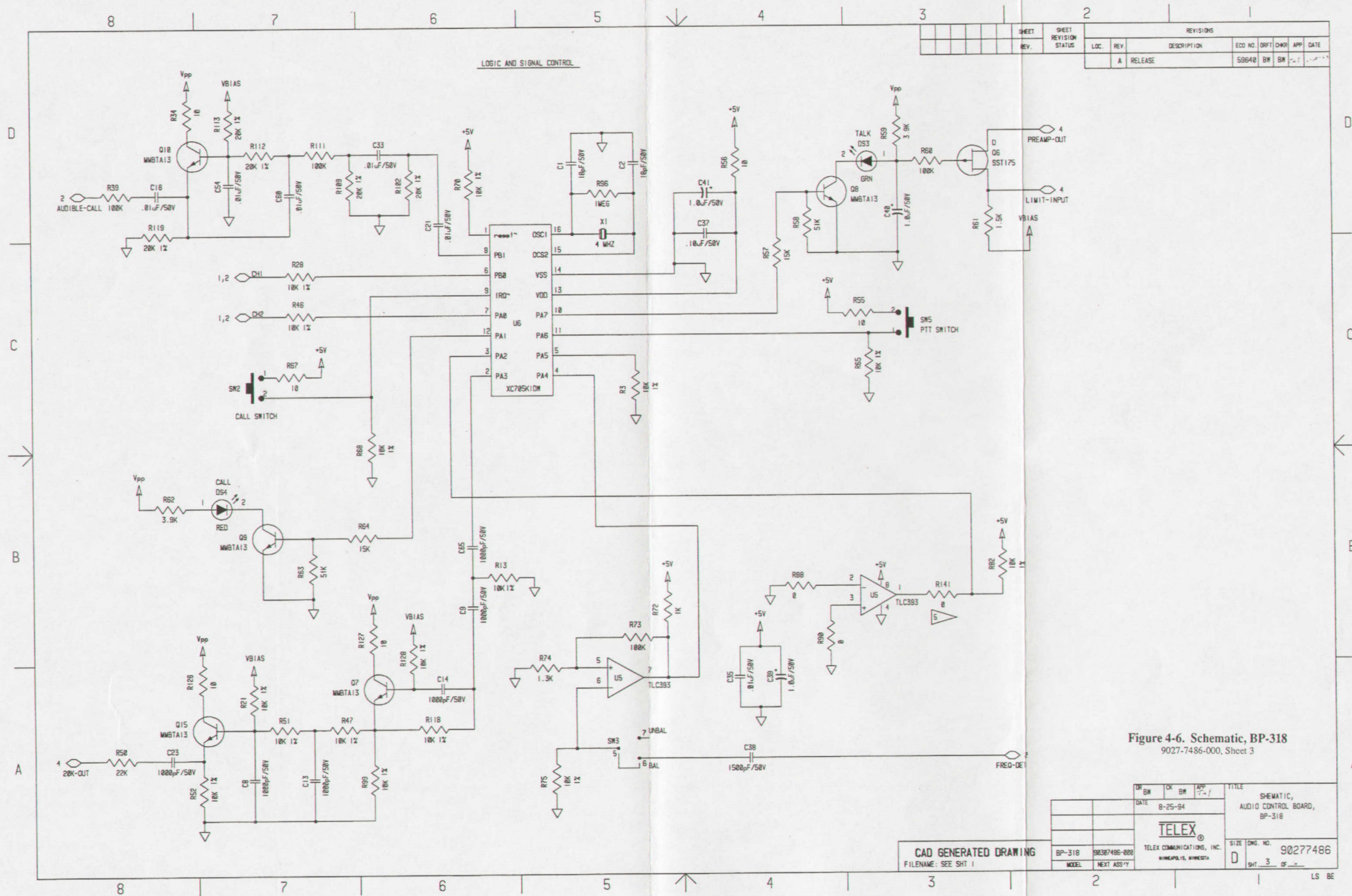


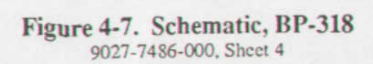
Figure 4-5. Schematic, BP-318
9027-7486-000, Sheet 2


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SHEET		2		OF		2	

CAD GENERATED DRAWING
FILENAME: SEE SHT 1

TELEX
TELEX COMMUNICATIONS, INC.
MINNEAPOLIS, MINNESOTA





		DR	BW	CX	BW	APP	TITLE	
		DATE	8-25-94			SCHEMATIC, AUDIO CONTROL BOARD, BP-318		
		<div style="text-align: center;">  TELEX COMMUNICATIONS, INC. WINNEPESIS, MINNESOTA </div>				SIZE	DRG. NO.	
BP-318	38387486-886					D	90277486	
MODEL	NEXT ASS'Y				SHT.	4	OF	