770639

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4	3	2	1	SHT
				REV

SHEET REV STATUS

REVISIONS				
CHG NO	LTR	DESCRIPTION	DATE	APPD
	PE	PRELIMINARY REV PB	12/1/00	DDN
	PF	PRELIMINARY REV PF ADDED TEST POINTS	12/13/00	TJY

SHIELDED PARTS

TO PWR SWITCH

TO POWER SUPPLY

TO FAN

TO COMBINER FEED

TO RECEIVER

TO RECEIVER

NOTES:

QTY	DESCRIPTION	ITEM	PART NO	DESIGNATOR

UNSPECIFIED LIMITS OF TOLERANCE
DECIMAL: .X = ±.050 IN, .XX = ±.030 IN, .XXX = ±.010 IN
FRACTION: MACHINED FINISH: 64
ANGLES ± 1° BENDS ± 2°
STRAIGHTNESS AND/OR FLATNESS .005 IN./1 IN.
CONCENTRICITY .010 TIR
UNMARKED ANGLES, BENDS AND INTERSECTIONS 90°
THREADS- EXT. CLASS 2A INT. CLASS 2B

NEXT ASSY. | USED ON
APPLICATIONS

DATE | DR BY | CHK BY | APPD. | PROD | MATERIAL:

TELEX hy-gain
TELEX COMMUNICATIONS INC.
Lincoln Nebraska U.S.A.

TITLE
SCHEMATIC, BTR-700/800
MAIN AUDIO

SIZE	CODE IDENT	DWG.NO.
E	57010	770639
SCALE		SHEET 1 OF 2

770639

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4	3	2	1	SHT
				REV

SHEET REV STATUS

REVISIONS				
CHG NO	LTR	DESCRIPTION	DATE	APPD
	PB		12/1/00	DDN
	PC	ADDED TESTPOINTS	12/14/00	TJY

1.8VDC
C1101 .01UF, C1102 .01UF, C1103 .01UF, C1104 .01UF, C1105 .01UF, C1106 .01UF, C1107 10UF — FOR CVDD
PIN 16 PIN 68 PIN 125 PIN 52 PIN 91 PIN 142

3.3VDC
C1108 .01UF, C1109 .01UF, C1110 .01UF, C1111 .01UF, C1112 .01UF, C1113 .01UF, C1114 10UF — FOR DVDD
PIN 4 PIN 56 PIN 112 PIN 33 PIN 75 PIN 130

3.3VDC
R1101 4.75K IRS
R1102 4.75K INTS
R1103 4.75K CLKMD
R1104 4.75K EMU0
R1105 4.75K READY
R1117 4.75K EMU1

R1106 4.75K MPMC
R1107 4.75K HOLD

U1101 ZSM330
3 Vcc — 3.3VDC
1 OUT — RS
GND 4

U1103 LP2951
+5V — IN 8; OUT 1; SENS 2; GND 4; 5V 6; ADJ 7
C1145 1UF 3.3VDC
R1108 27K
R1109 15K
C1146 1UF

U1104 LP2951
+5V — IN 8; OUT 1; SENS 2; GND 4; 5V 6; ADJ 7
1.8VDC
R1110 7.2K
R1111 15K

U1105 TLV320AIC27 48 Pin TQFP

3.3VDC
C1119 .01UF
C1115 .01UF, C1116 .01UF
XTALOUT
Y1102 24.576MHZ
C1117 22PF, C1118 22PF
BDX0
BCLKX0
MASTER OUT
BFSX0
RS
PCBEEP
DVDD, XTALIN, DVSS, SDATAOUT, BITCLK, DVSS, SDATAIN, DVDD, SYNC, RESETB
LINEOUTR — RCV OUT 2
LINEOUTL — RCV OUT 1
C1120 0.1UF, C1121 .047UF
C1122 0.1UF, C1123 10UF
C1124 0.1UF, C1125 10UF, C1126 1UF
3.3VDC
C1127 .01UF
C1128 .47UF — RCV IN 1
C1129 .47UF — RCV IN 2
C1141 .47UF — RCV IN 3
C1142 .47UF — RCV IN 4

U1107 TLV320AIC27 48 Pin PQFP

3.3VDC
C1132 .01UF
3.3VDC
C1130 .01UF, C1131 .01UF
XTALOUT
BDX0
BCLKX0
SLAVE OUT
BFSX0
RS
PCBEEP
DVDD, XTALIN, XTALOUT, DVSS, SDATAOUT, BITCLK, DVSS, SDATAIN, DVDD, SYNC, RESETB
LINEOUTR — RCV OUT 4
LINEOUTL — RCV OUT 3
C1133 0.1UF, C1134 .047UF
C1135 0.1UF, C1136 10UF
C1137 0.1UF, C1138 10UF, C1139 1UF
3.3VDC
C1140 .01UF

U1113 NC7S32
3.3VDC
BDR0

C1151 .01, C1152 .01 — 3.3VDC
C1153 .01, C1154 .01 — 3.3VDC
C1155 .01, C1156 .01 — 3.3VDC

U1114 TLV0834
1 NC, 2 CS, 3 CH0, 4 CH1, 5 CH2, 6 CH3, 7 GND, 8 ANGL GND, 9 REF, 10 DO, 11 SARS, 12 CLK, 13 DI, 14 Vcc
RSSIST, RSSIA, RSSIB, RSSIC, RSSID
3.3VDC
RSSIDI, RSSICK, RSSIDO

BELTPACK AUDIO CONTROL

3.3VDC
3B 2B 1B WTA 1B SA 1 WTA 2A WTA 1A 1A
WTA 2B SA 4 WTA 4B WTA 4A 4A 4B 2A WTA 3B SA 3 SA 2 WTA 3A 3A
U1110 U1111 M4-32/32-10JC
IOSTRB CTCK A5 A4 RW CTMS D3
A7 A6 D0 D1 D2
3.3VDC
STBTUNE STBRD STBRC STBTB STBRA
RCV PLL

BELTPACK AUDIO CONTROL

U1112 M4-32/32-10JC
ST6TB LD B PA GATE B PA GATE A LD A DATA CLK ST6TA
3.3VDC
CTDO CTDI CTMS GND CTCK
J1108
3.3VDC
R1123 1K CTCK, R1124 1K CTDI, R1125 1K CTMS

J1105
SELLT4 MENU SET UP DOWN SELSW1 SELLT1 SELLT2 SELLT3 SELSW2 SELSW3 SELSW4 SELLT5
TP137 TP123 TP124 TP125 TP126 TP130 TP131 TP133 TP135 TP132 TP134 TP136
FRONT PANEL CONTROL

J1106
CH B TALK TALKSW 2W4WA 2W4WB 2W4WSWA 2W4WSWB AUXONOFF AUX CH A A/B/BOTH
TP139 TALK ENABLE, AUX, CH A, CH B, 2W A, 2W B
TP127 TP128 TP129 TP138
FRONT PANEL CONTROL

PLL PA & RSSI CONTROL

U1106 TMS320VC5402 TMS320VC5402 144 Pin TQFP
A0 A1 A2 A3 A4 A5 A6 A7
D7 D6 D5 D4 D3 D2 D1 D0
RS
X2/CLKIN
READY
RW
IOSTRB
E1107 XF
HOLD
MPMC
TMS TCK TRST TDI TDO EMU1 EMU0
CLKMD
VC1101 5-20PF
Y1101 4MHZ
C1143 22 PF
C1144 22 PF
E1101
U1109:D 4011
R1115 100 OHM
REF

C1157 .001UF
+5V
U1109:A 4011, U1109:B 4011, U1109:C 4011
LCDCK
C1150 .01UF
R1114 100K

C1148 1UF
D1102 TMPD914
VR1101 10K
-5 VDC
D1101 TMPD914
C1149 1UF

3.3VDC
JM1101
U1115 25LC640
SCK SI CS WP SO HOLD
R1118 10K

J1102
GND +5V VSS VDD VEE A0 /CS1 CS2 CL /RDE(E) /WR(RW) D0 D1 D2 D3 D4 D5 D6 D7 /RES A +5V +5V K
R1116 10 OHM
LCD INTERFACE
20 Pin Single Row 0.1 in Centers

R1119 1K SI
R1120 1K SO
R1121 1K SCK
R1122 1K /CS
J1113

J1114
TMS TRST TDI 3.3VDC N/C TDO TCK EMU0 EMU1

BDX0 BDR0 BCLKX0 BFSX0 BDX1 BDR1 BCLKX1 BFSX1 INTS

NOTES:

QTY	DESCRIPTION	ITEM	PART NO	DESIGNATOR

NEXT ASSY. | USED ON
APPLICATIONS

UNSPECIFIED LIMITS OF TOLERANCE
DECIMAL: .X = ±.050 IN; .XX = ±.030 IN; .XXX = ±.010 IN
FRACTION: MACHINED FINISH: 64
ANGLES ± 1° BENDS ± 2°
STRAIGHTNESS AND/OR FLATNESS .005 IN./1 IN.
CONCENTRICITY .010 TIR
UNMARKED ANGLES, BENDS AND INTERSECTIONS 90
THREADS- EXT. CLASS 2A INT. CLASS 2B

MATERIAL:

DATE	07/28/00
DR BY	G.F.
CHK BY	T.Y.
APPD.	
PROD	

TELEX hy-gain
TELEX COMMUNICATIONS INC.
Lincoln Nebraska U.S.A

TITLE
SCHEMATIC
BTR-700/800 PROCESSOR BOARD

SIZE	CODE IDENT	DWG.NO.
D	57010	770639
SCALE		SHEET 2 OF 2

770640

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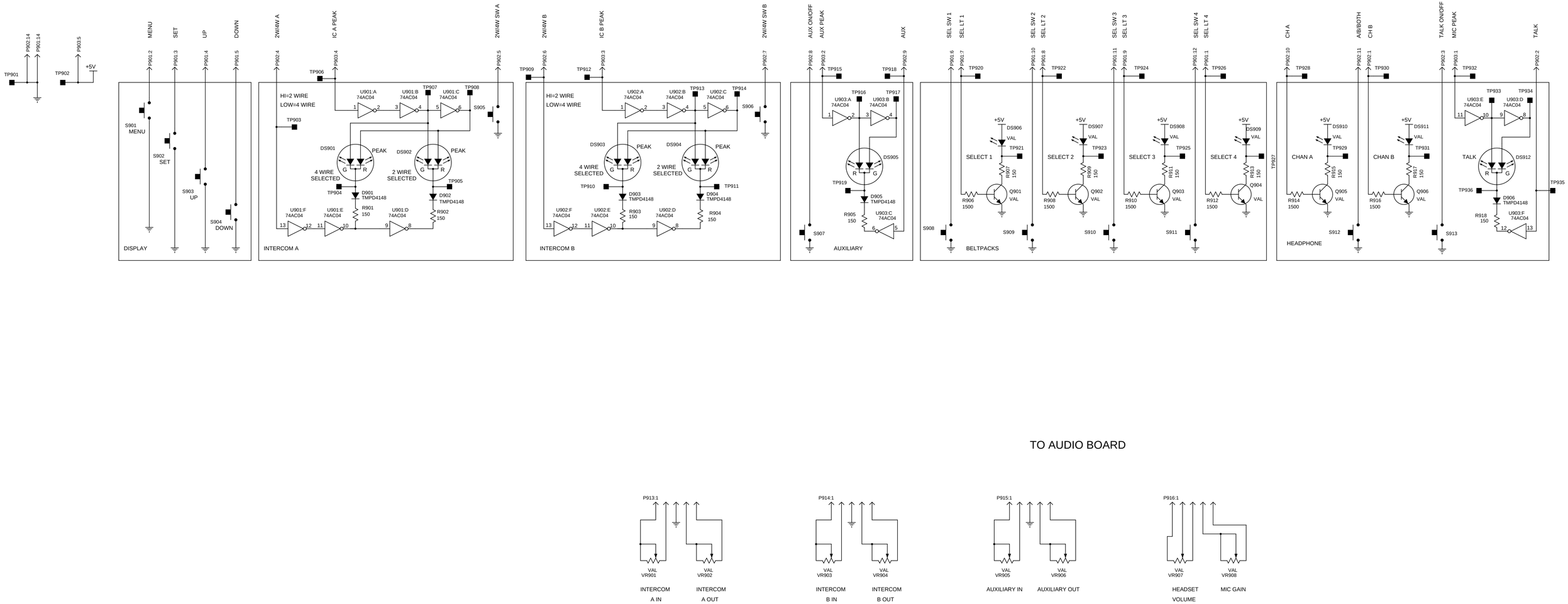
4	3	2	1	SHT
				REV

SHEET REV STATUS

REVISIONS

CHG NO	LTR	DESCRIPTION	DATE	APPD
			8/9/00	
	PC	CHG S913 FROM +5 TO GND	12/05/00	SMH
	PD	ADDED TEST POINTS	12/07/00	TJY



TO AUDIO BOARD

NOTES:

1. REFERENCE TO BOARD 750542.

QTY	DESCRIPTION	ITEM	PART NO	DESIGNATOR

UNSPECIFIED LIMITS OF TOLERANCE

DECIMAL:
.X = ±.050 IN
.XX = ±.030 IN
.XXX = ±.010 IN

FRACTION:

MACHINED FINISH: 64

ANGLES ±1° BENDS ±2°

STRAIGHTNESS AND/OR FLATNESS .005 IN./1 IN.

CONCENTRICITY .010 TIR

UNMARKED ANGLES, BENDS AND INTERSECTIONS 90

THREADS- EXT. CLASS 2A
INT. CLASS 2B

NEXT ASSY.	USED ON
APPLICATIONS	

DATE	
DR BY	
CHK BY	
APPD.	
PROD	

MATERIAL:

TELEX® hy-gain®
TELEX COMMUNICATIONS INC.
Lincoln Nebraska U.S.A.

TITLE
BTR-700/800 FRONT PANEL

SIZE	CODE IDENT	DWG.NO.
D	57010	770640
SCALE		SHEET 1 OF 1

770647

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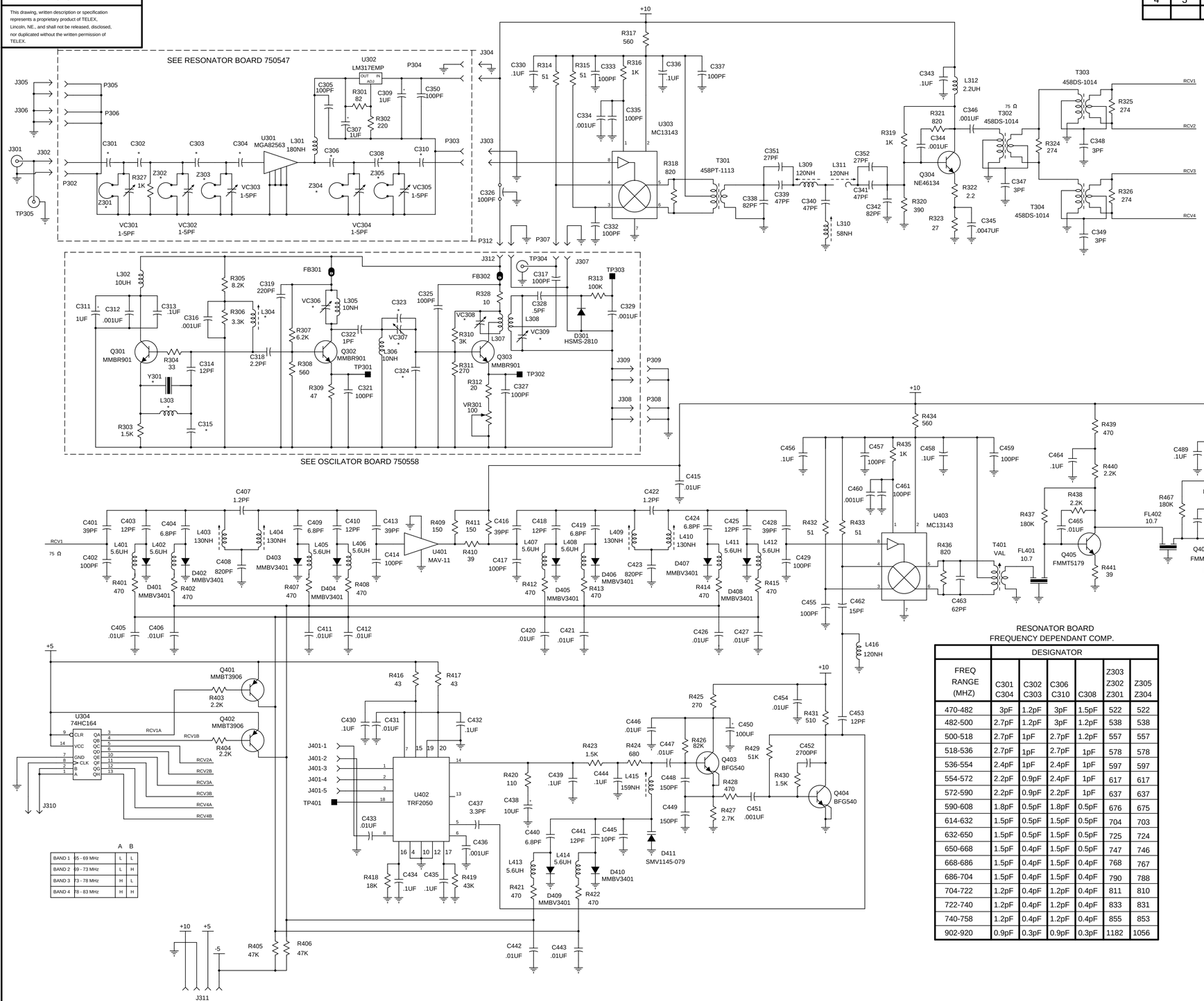
4	3	2	1	SHT
				REV

SHEET REV STATUS

REVISIONS			
CHG NO	LTR	DESCRIPTION	DATE / APPD
	PD		11/29/00

OSCILLATOR BOARD
FREQUENCY DEPENDANT COMP.

	DESIGNATOR									
FREQ RANGE (MHZ)	C315	C320	C323	C324	L304	L303	VC306 VC307	VC308	VC309	Y301 (780180)
470-482	39pF	22pF	10pF	33pF	723475-23 VOL	270nH	RED	BLU	BLU	91.167
482-500	39pF	22pF	10pF	33pF	723475-23 VOL	270nH	RED	BLU	BLU	94.167
500-518	39pF	22pF	10pF	33pF	723475-23 VOL	270nH	RED	BLU	BLU	97.167
518-536	39pF	22pF	10pF	33pF	723475-23 VOL	270nH	RED	BLU	BLU	100.167
536-554	39pF	15pF	10pF	33pF	723475-22 BLU	220nH	WHT	BLU	BLU	103.167
554-572	39pF	15pF	10pF	33pF	723475-22 BLU	220nH	WHT	BLU	BLU	106.167
572-590	39pF	15pF	10pF	33pF	723475-22 BLU	220nH	WHT	BLU	BLU	109.167
590-608	39pF	15pF	10pF	33pF	723475-22 BLU	220nH	WHT	BLU	BLU	112.167
614-632	33pF	8.2pF	-	33pF	723475-21 GRN	180nH	WHT	BLU	BRN	116.167
632-650	33pF	8.2pF	-	33pF	723475-21 GRN	180nH	WHT	BLU	BRN	119.167
650-668	33pF	8.2pF	-	33pF	723475-21 GRN	180nH	WHT	BLU	BRN	122.167
668-686	33pF	8.2pF	-	33pF	723475-21 GRN	180nH	WHT	BLU	BRN	125.167
686-704	33pF	8.2pF	-	33pF	723475-21 GRN	180nH	WHT	BLU	BRN	128.167
704-722	33pF	8.2pF	-	33pF	723475-21 GRN	180nH	WHT	BLU	BRN	131.167
722-740	27pF	-	-	27pF	723475-20 YEL	150nH	WHT	BRN	BRN	134.167
740-758	27pF	-	-	27pF	723475-20 YEL	150nH	WHT	BRN	BRN	137.167
902-920										



RESONATOR BOARD
FREQUENCY DEPENDANT COMP.

	DESIGNATOR					
FREQ RANGE (MHZ)	C301 C304	C302 C303	C306 C310	C308	Z303 Z302 Z301	Z305 Z304
470-482	3pF	1.2pF	3pF	1.5pF	522	522
482-500	2.7pF	1.2pF	3pF	1.2pF	538	538
500-518	2.7pF	1pF	2.7pF	1.2pF	557	557
518-536	2.7pF	1pF	2.7pF	1pF	578	578
536-554	2.4pF	1pF	2.4pF	1pF	597	597
554-572	2.2pF	0.9pF	2.4pF	1pF	617	617
572-590	2.2pF	0.9pF	2.2pF	1pF	637	637
590-608	1.8pF	0.5pF	1.8pF	0.5pF	676	675
614-632	1.5pF	0.5pF	1.5pF	0.5pF	704	703
632-650	1.5pF	0.5pF	1.5pF	0.5pF	725	724
650-668	1.5pF	0.4pF	1.5pF	0.5pF	747	746
668-686	1.5pF	0.4pF	1.5pF	0.4pF	768	767
686-704	1.5pF	0.4pF	1.5pF	0.4pF	790	788
704-722	1.2pF	0.4pF	1.2pF	0.4pF	811	810
722-740	1.2pF	0.4pF	1.2pF	0.4pF	833	831
740-758	1.2pF	0.4pF	1.2pF	0.4pF	855	853
902-920	0.9pF	0.3pF	0.9pF	0.3pF	1182	1056

1. MAIN RECEIVER PC BOARD NUMBER IS 750543.

NOTES:

QTY	DESCRIPTION	ITEM	PART NO	DESIGNATOR

UNSPECIFIED LIMITS OF TOLERANCE

DECIMAL:
.X = ±.050 IN
.XX = ±.030 IN
.XXX = ±.010 IN

FRACTION:
MACHINED FINISH: 64

ANGLES ±1° BENDS 2 ±°

STRAIGHTNESS AND/OR FLATNESS .005 IN./1 IN.

CONCENTRICITY .010 TIR

UNMARKED ANGLES, BENDS AND INTERSECTIONS 90

THREADS- EXT. CLASS 2A
INT. CLASS 2B

NEXT ASSY.	USED ON
APPLICATIONS	

DATE	
DR BY	
CHK BY	
APPD.	
PROD	

MATERIAL:

TELEX.
TELEX COMMUNICATIONS INC.
Lincoln Nebraska U.S.A

TITLE
MAIN RECEIVER, BTR-700/800

SIZE	CODE IDENT	DWG.NO.
D	57010	770647
SCALE NONE		SHEET 1 OF 4

770647

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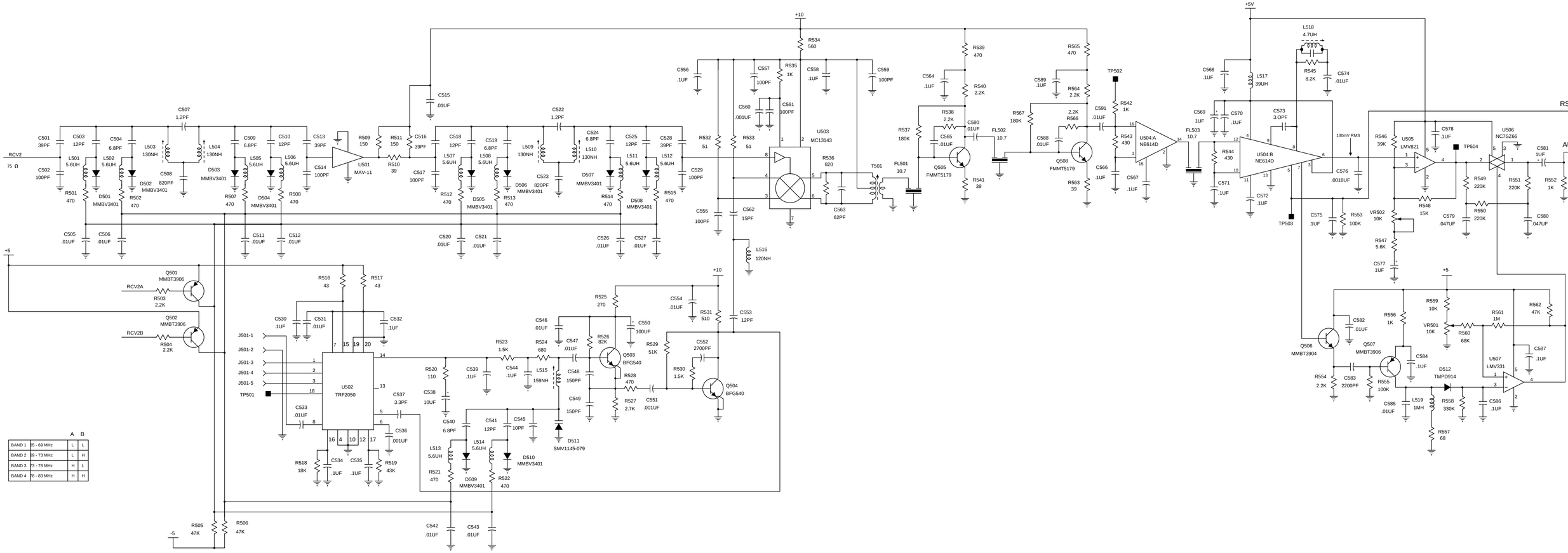
4	3	2	1	SHT
				REV

SHEET REV STATUS

REVISIONS				
CHG NO	LTR	DESCRIPTION	DATE	APPD
	PC		09/25/00	



NOTES:

QTY	DESCRIPTION	ITEM	PART NO	DESIGNATOR

UNSPECIFIED LIMITS OF TOLERANCE

DECIMAL:
.X = ±.050 IN
.XX = ±.030 IN
.XXX = ±.010 IN

FRACTION:

MACHINED FINISH: 64

ANGLES ± : BENDS 2 ±

STRAIGHTNESS AND/OR FLATNESS .005 IN./1 IN.

CONCENTRICITY .010 TIR

UNMARKED ANGLES, BENDS AND INTERSECTIONS 90

THREADS- EXT. CLASS 2A
INT. CLASS 2B

NEXT ASSY.	USED ON
APPLICATIONS	

DATE	
DR BY	
CHK BY	
APPD.	
PROD	

MATERIAL:

TELEX hy-gain
TELEX COMMUNICATIONS INC.
Lincoln Nebraska U.S.A.

TITLE MAIN RECEIVER, BTR-700/800

SIZE	CODE IDENT	DWG.NO.
D	57010	770647
SCALE	NONE	SHEET 2 OF 4

770647

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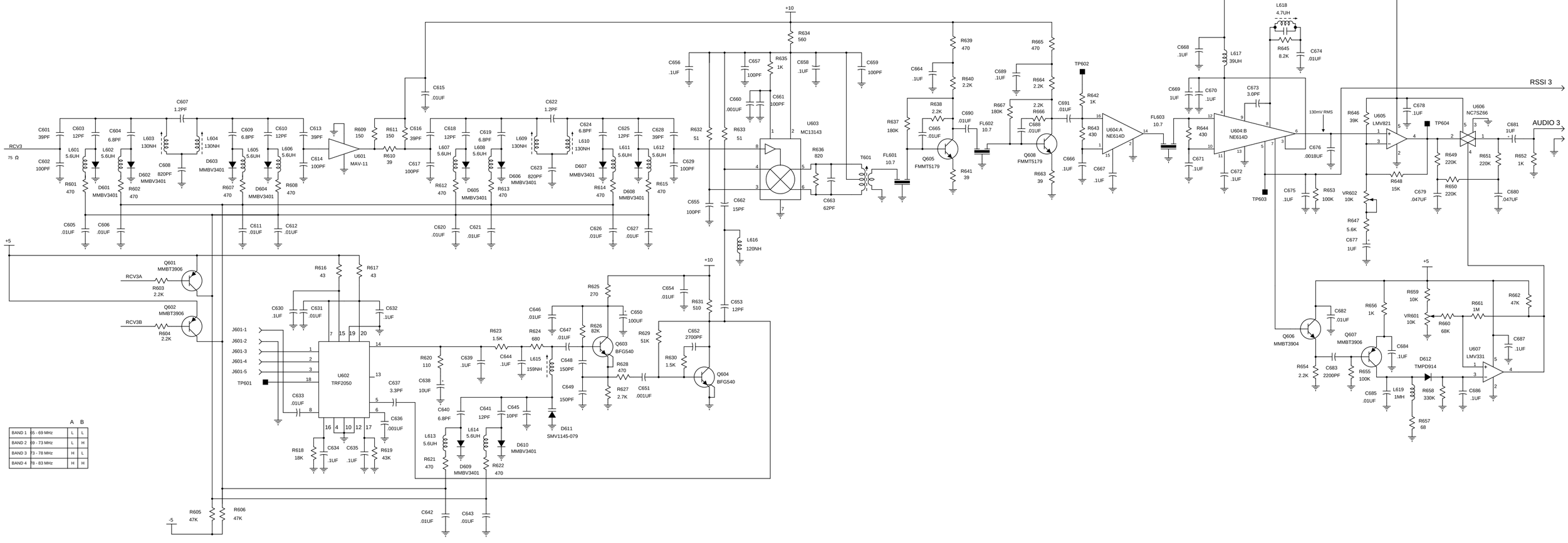
4	3	2	1	SHT
				REV

SHEET REV STATUS

REVISIONS

CHG NO	LTR	DESCRIPTION	DATE	APPD
	PC		09/21/00	



NOTES:

QTY	DESCRIPTION	ITEM	PART NO	DESIGNATOR
	UNSPECIFIED LIMITS OF TOLERANCE			
	DECIMAL: .X = ±.050 IN; .XX = ±.030 IN; .XXX = ±.010 IN; FRACTION:			
	ANGLES ±1° BENDS ±2°			
	STRAIGHTNESS AND/OR FLATNESS .005 IN./1 IN.			
	CONCENTRICITY .010 TIR			
	UNMARKED ANGLES, BENDS AND INTERSECTIONS 90			
	THREADS- EXT. CLASS 2A INT. CLASS 2B			

NEXT ASSY.	USED ON
APPLICATIONS	

DATE	
DR BY	
CHK BY	
APPD.	
PROD	

MATERIAL:

TELEX hy-gain

TELEX COMMUNICATIONS INC.
Lincoln Nebraska U.S.A.

TITLE

MAIN RECEIVER, BTR-700/800

SIZE	CODE IDENT	DWG.NO.
D	57010	770647
SCALE	NONE	SHEET 3 OF 4

770647

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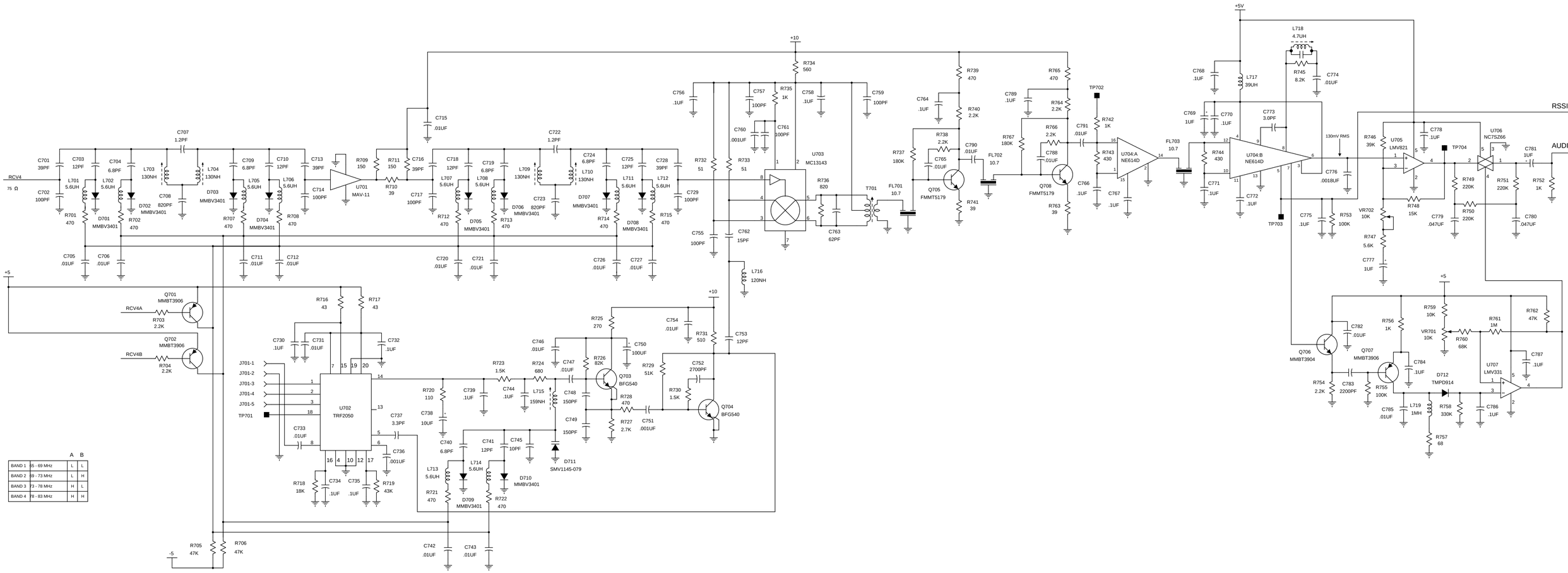
SHEET REV STATUS	4	3	2	1
SHT				
REV				

REVISIONS			
CHG NO	LTR	DESCRIPTION	DATE	APPD
	PC		09/21/00	



	A	B
BAND 1	65 - 69 MHz	L	L
BAND 2	69 - 73 MHz	L	H
BAND 3	73 - 78 MHz	H	L
BAND 4	78 - 83 MHz	H	H

NOTES:

NEXT ASSY.	USED ON
APPLICATIONS	

QTY	DESCRIPTION	ITEM	PART NO	DESIGNATOR

UNSPECIFIED LIMITS OF TOLERANCE

DECIMAL:
.X = ±.050 IN
.XX = ±.030 IN
.XXX = ±.010 IN

FRACTION:
MACHINED FINISH: 64

ANGLES ±1° BENDS 2° ±

STRAIGHTNESS AND/OR FLATNESS .005 IN./1 IN.

CONCENTRICITY .010 TIR

UNMARKED ANGLES, BENDS AND INTERSECTIONS 90°

THREADS- EXT. CLASS 2A
INT. CLASS 2B

MATERIAL:

DATE	
DR BY	
CHK BY	
APPD.	
PROD	

TELEX hy-gain
TELEX COMMUNICATIONS INC.
Lincoln Nebraska U.S.A

TITLE
MAIN RECEIVER, BTR-700/800

SIZE	CODE IDENT	DWG.NO.
D	57010	770647
SCALE	NONE	SHEET 4 0F 4

770655

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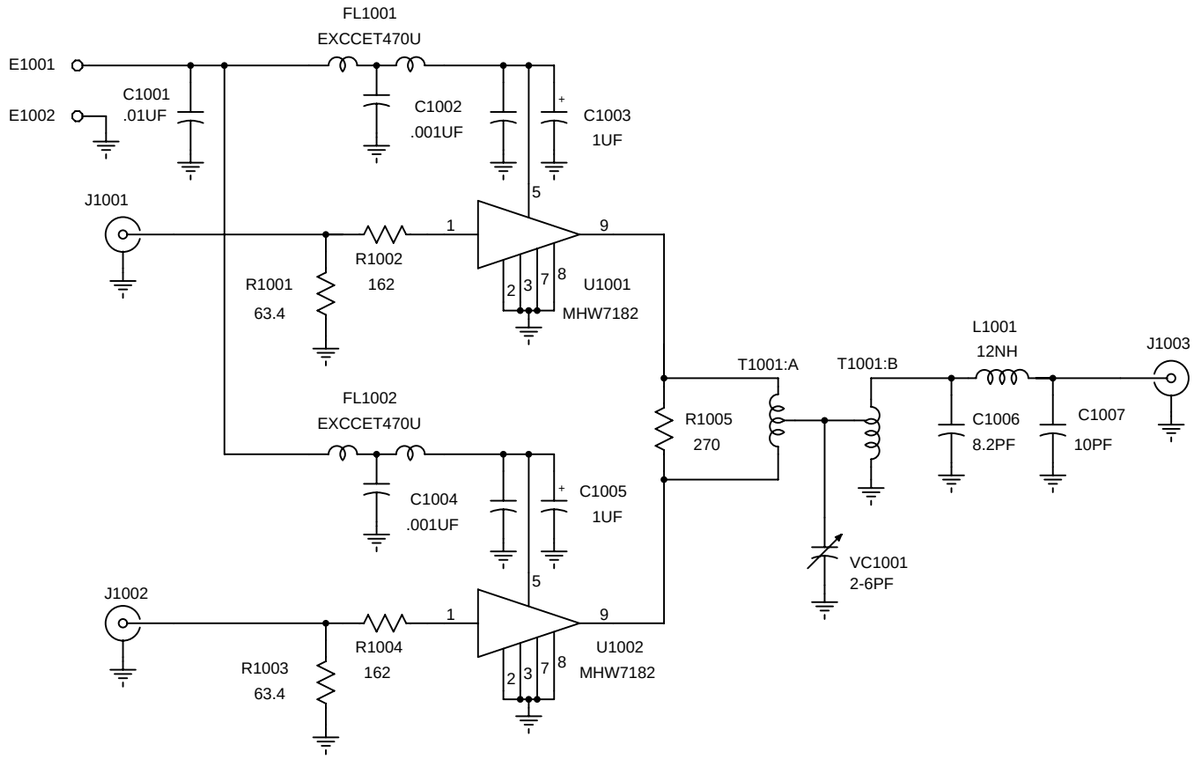
REVISIONS				
CHG.NO.	LTR	DESCRIPTION	DATE	APPD
	PA	PRELIMINARY	12/1/00	DDN



QTY	DESCRIPTION	ITEM	PART NO.	SPECIFICATION

UNSPECIFIED LIMITS OF TOLERANCE

DECIMAL:
.X = ±.050 IN
.XX = ±.030 IN
.XXX = ±.010 IN

FRACTION:
MACHINED FINISH: 64

ANGLES ±1°, BENDS 2 ±°

STRAIGHTNESS AND/OR FLATNESS .005 IN./1 IN.

CONCENTRICITY .010 TIR

UNMARKED ANGLES, BENDS AND INTERSECTIONS 90°

THREADS- EXT. CLASS 2A
INT. CLASS 2B

DATE	8/16/00
DR BY	R. BASINE
CHK BY	
APPD.	
PROD.	
MATERIAL:	

NEXT ASSY.	USED ON
APPLICATIONS	

TELEX® hy-gain®
TELEX COMMUNICATIONS INC.
Lincoln Nebraska U.S.A

TITLE
BTR-800
COMBINER

SIZE	CODE IDENT	DWG. NO.
B	57010	770655
SCALE:		SHEET:

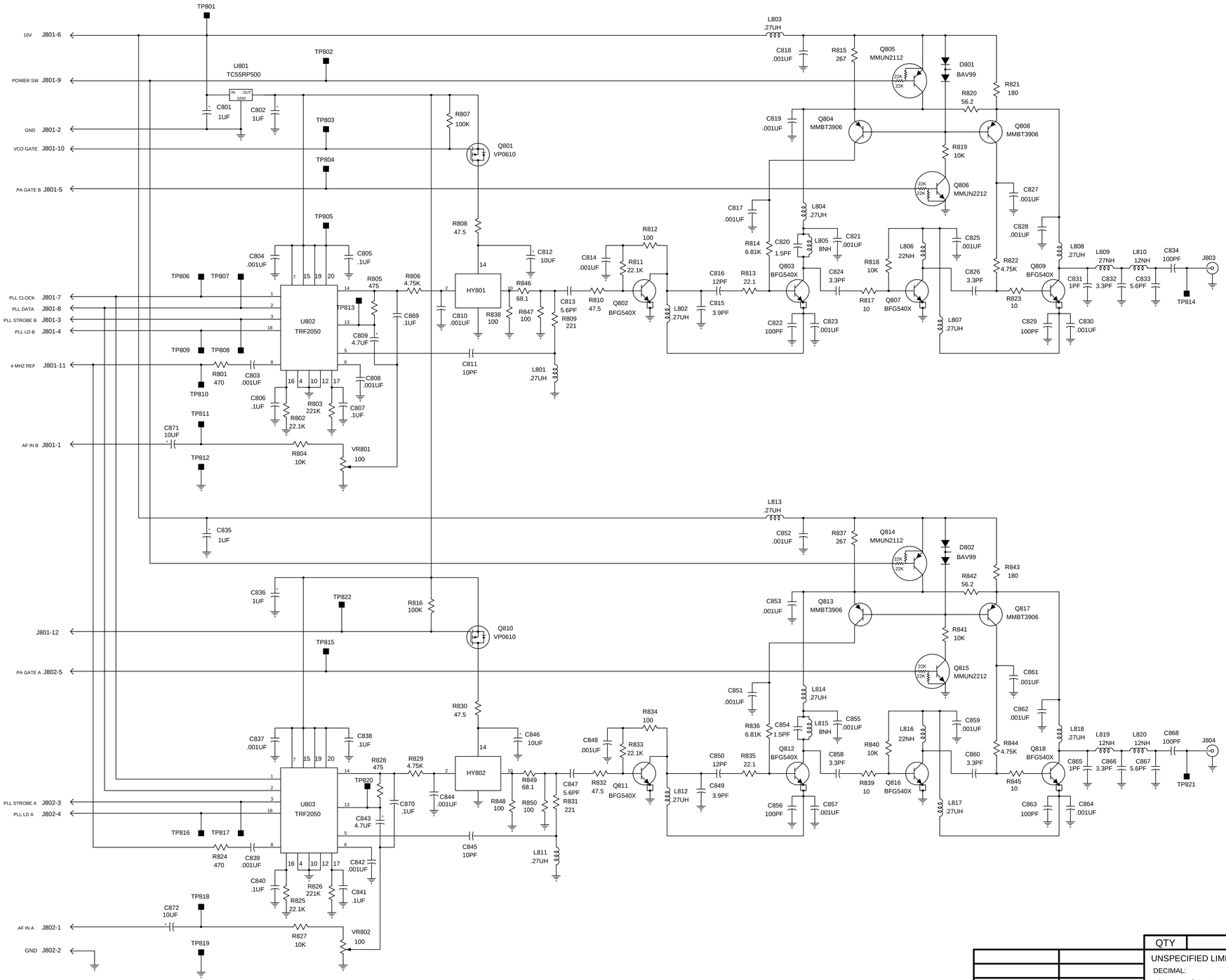
770656

This drawing, written description or specification represents a proprietary product of TELEX, Lincoln, NE., and shall not be released, disclosed, nor duplicated without the written permission of TELEX.

4	3	2	1	SHT
				REV

SHEET REV STATUS

REVISIONS				
CHG NO	LTR	DESCRIPTION	DATE	APPD
	PA	PRELIMINARY REV PA	11/2/00	DN
	PB	ADD AND CHG COMPONET VALUES	12/5/00	SMH



NOTES:

QTY	DESCRIPTION	ITEM	PART NO	DESIGNATOR
NEXT ASSY.	USED ON			
APPLICATIONS				

UNSPECIFIED LIMITS OF TOLERANCE

DECIMAL: .X = ±.050 IN; .XX = ±.030 IN; .XXX = ±.010 IN

FRACTION:

MACHINED FINISH: 64

ANGLES ±1° BENDS ±2°

STRAIGHTNESS AND/OR FLATNESS .005 IN./1 IN.

CONCENTRICITY .010 TIR

UNMARKED ANGLES, BENDS AND INTERSECTIONS 90

THREADS- EXT. CLASS 2A INT. CLASS 2B

DATE	7/12/00
DR BY	R. BASINE
CHK BY	
APPD.	
PROD	

MATERIAL:

TELEX

TELEX COMMUNICATIONS INC.
Lincoln Nebraska U.S.A.

TITLE

BTR700/800 TRANSMIT BOARD

SIZE	CODE IDENT	DWG.NO.
D	57010	770656
SCALE		SHEET