

REV.	REV. NO.	DATE	APPD. BY	DATE
A	PNKCON	08/10/99		
B	RCNCON	08/11/99		
C	MC1985	07/17/99		08/19/99

NOTES:
 UNLESS OTHERWISE SPECIFIED, RESISTANCES ARE IN OHMS. CAPACITANCES ARE IN MICROFARADS. INDUCTANCES ARE IN MICROHENRIES.
 [2/B1] MATCHING CONNECTIONS FOR SIGNAL FLAGS ARE LOCATED BY SHEET NUMBER AND GRID COORDINATE.
 (2) DENOTES TEST POINT
 ▽ DENOTES DIGITAL GROUND.
 ▽ DENOTES ANALOG GROUND.

REFERENCE DESIGNATORS	
LAST USED	NOT USED
C662	C197, 550, 580, 629, 603, 604, 629, 607, 609, 662
CR39	CR38
FL154	FL62, 71, 76, 133-135, 140
J7	J40, 148, 173, 174, 204
L228	L40, 148, 173, 174, 204
P1	P47, 513, 553, 560, 560, 577, 578, 594, 511, 624, 624, 624, 629, 512, 645
Q56	Q1-38
R645	R14, 99, 116-119
T99	
TP29	
U122	
VA16	
Y6	

PROPRIETARY INFORMATION OF ANRITSU COMPANY

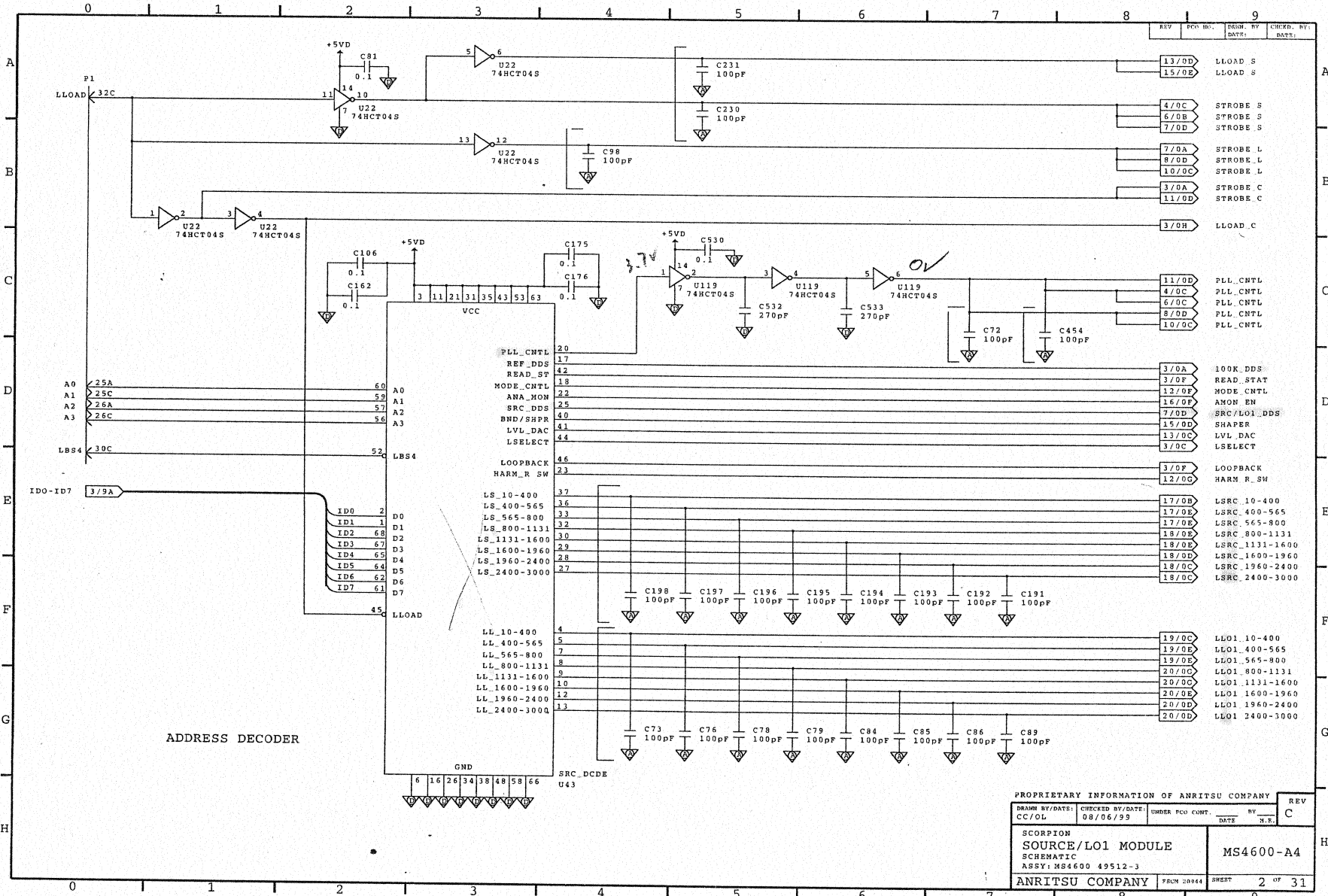
DRAWN BY/DATE	CHECKED BY/DATE	UNDER RCN EVNT.	4/99	BY JLD	REV
CC/OL	08/06/99				C

SCORPION
 SOURCE/LO1 MODULE
 SCHEMATIC
 ASSY: MS4600 49512-3

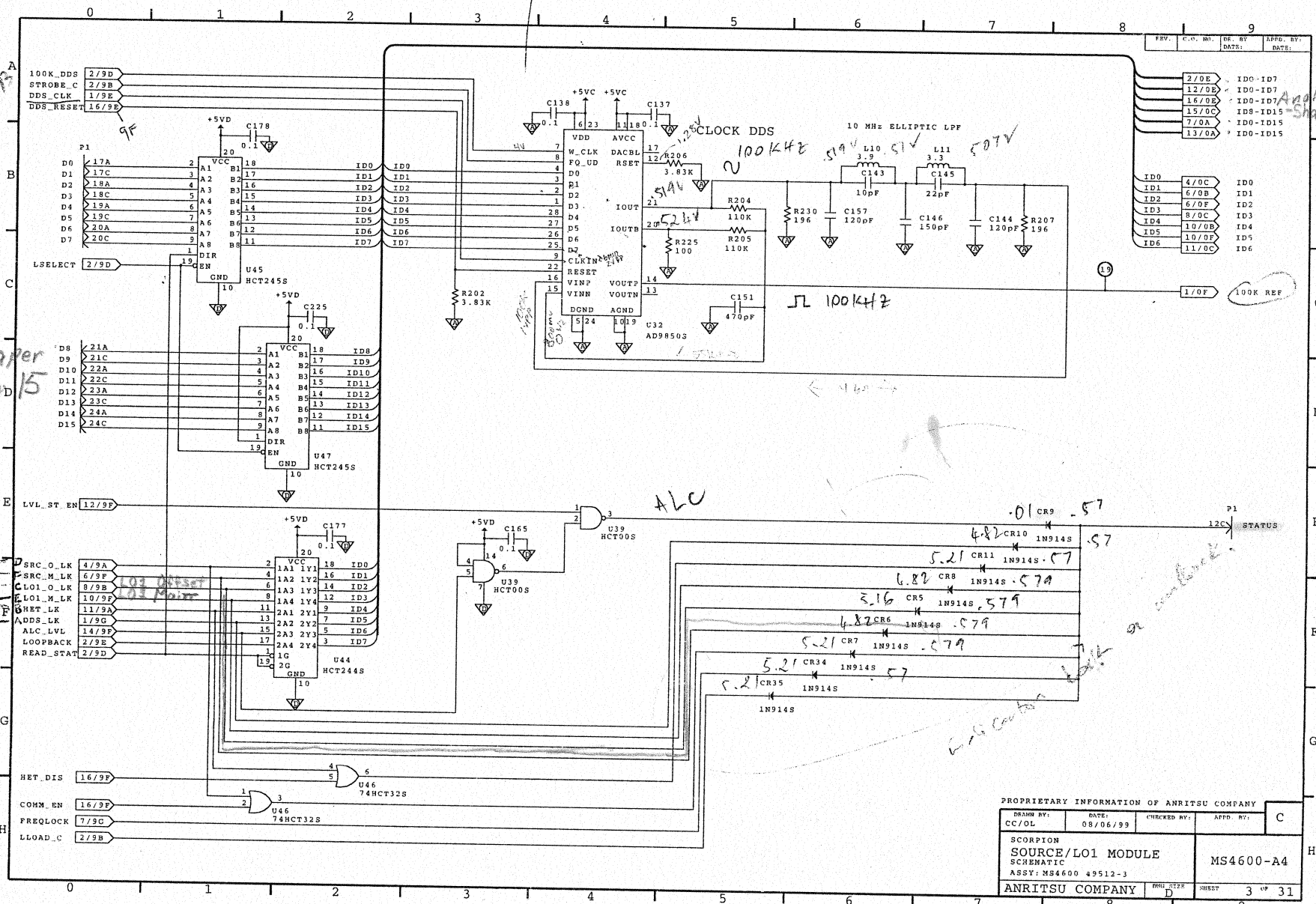
ANRITSU COMPANY	PCHN 20044	ABERT	1	OF	31
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MS4600-A4

Freq. Lock Detect pg. 7
 LO1/Com Offset pg. 8



PROPRIETARY INFORMATION OF ANRITSU COMPANY				REV
DRAWN BY/DATE:	CHECKED BY/DATE:	EMBED PCB CONT.	BY	C
CC/OL	08/06/93		DATE	N.F.
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4	
ANRITSU COMPANY		FORM 20944	SHEET	2 OF 31



FROM 15

Shaper DAC

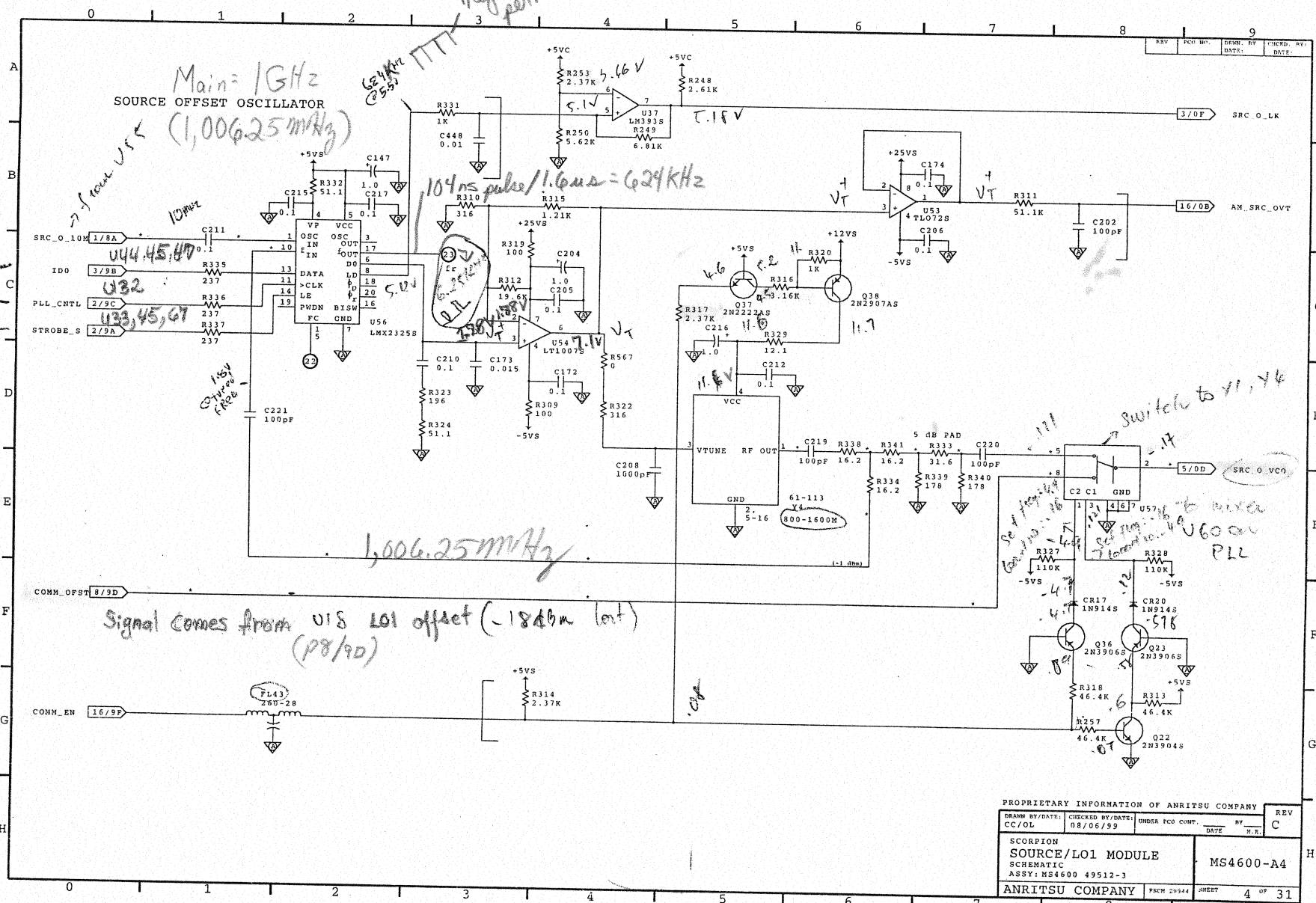
To Shaper DAC pg 15

ALC

CR10 1N914S .57
 CR11 1N914S .57
 CR8 1N914S .57A
 CR5 1N914S .57A
 CR6 1N914S .57A
 CR7 1N914S .57A
 CR34 1N914S .57
 CR35 1N914S .57

PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRAWN BY: CC/OL	DATE: 08/06/99	CHECKED BY:	APPD BY: C
SCORPION SOURCE/LO1 MODULE SCHEMATIC			MS4600-A4
ASSY: MS4600 49512-3			
ANRITSU COMPANY		REV: D	SHEET: 3 OF 31

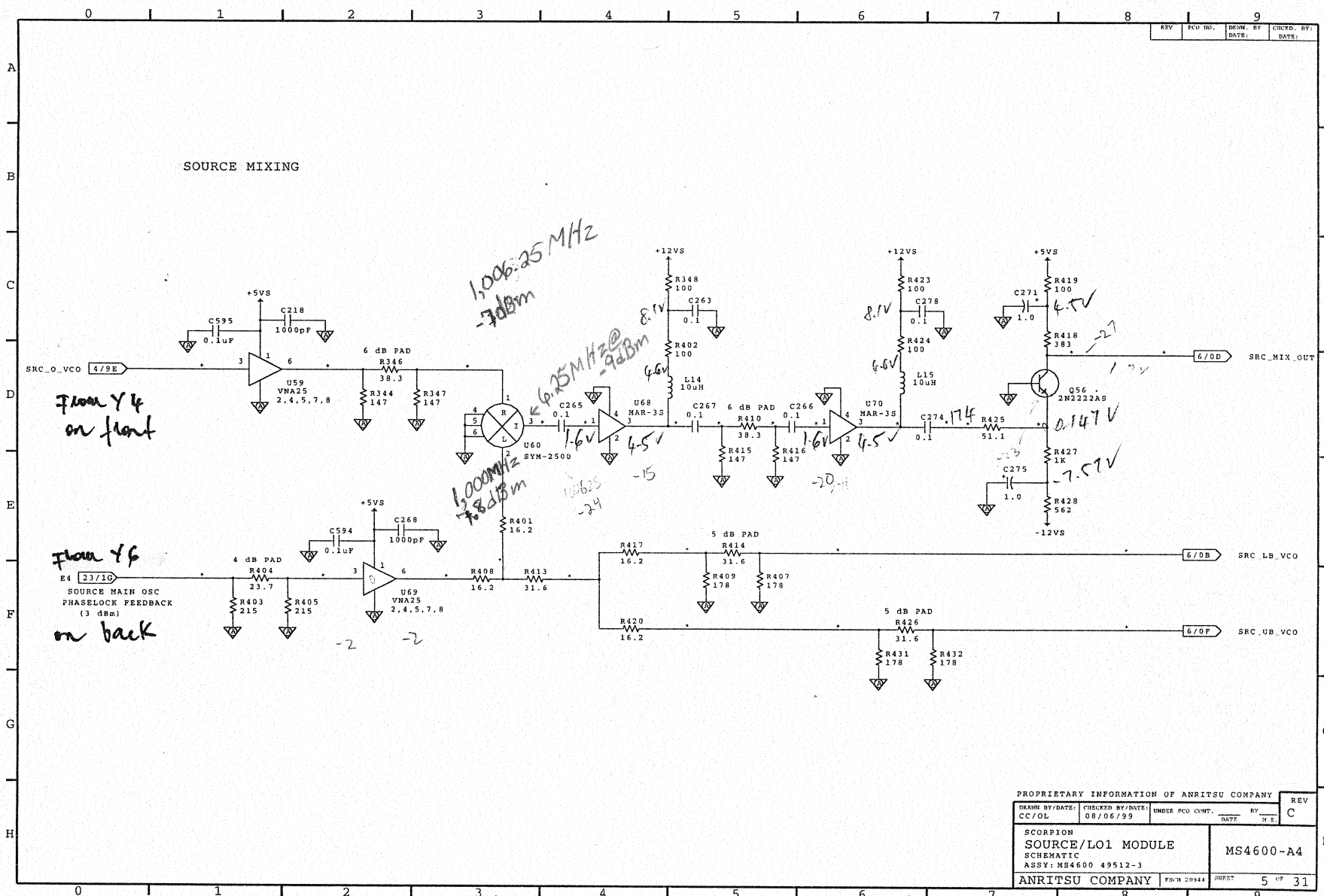
Clak DDS



High when freq error

104ns pulse / 1.6µs = 624KHz

PROPRIETARY INFORMATION OF ANRITSU COMPANY				REV
DRAWN BY/DATE:	CHECKED BY/DATE:	UNDER P.C. COMP.	DATE	BY
CC/OL	08/06/99			C
SCORPION SOURCE/LO1 MODULE SCHEMATIC			MS4600-A4	
ASSY: MS4600 49512-3				
ANRITSU COMPANY		FORM 20844	SHEET	4 OF 31



SOURCE MIXING

Flown Y & on front

Flown Y & on back

1.00625 MHz
-7dBm

1.00625 MHz @
-9dBm

1.00625 MHz
-7.8dBm

1.00625
-24

+12VS

+12VS

+5VS

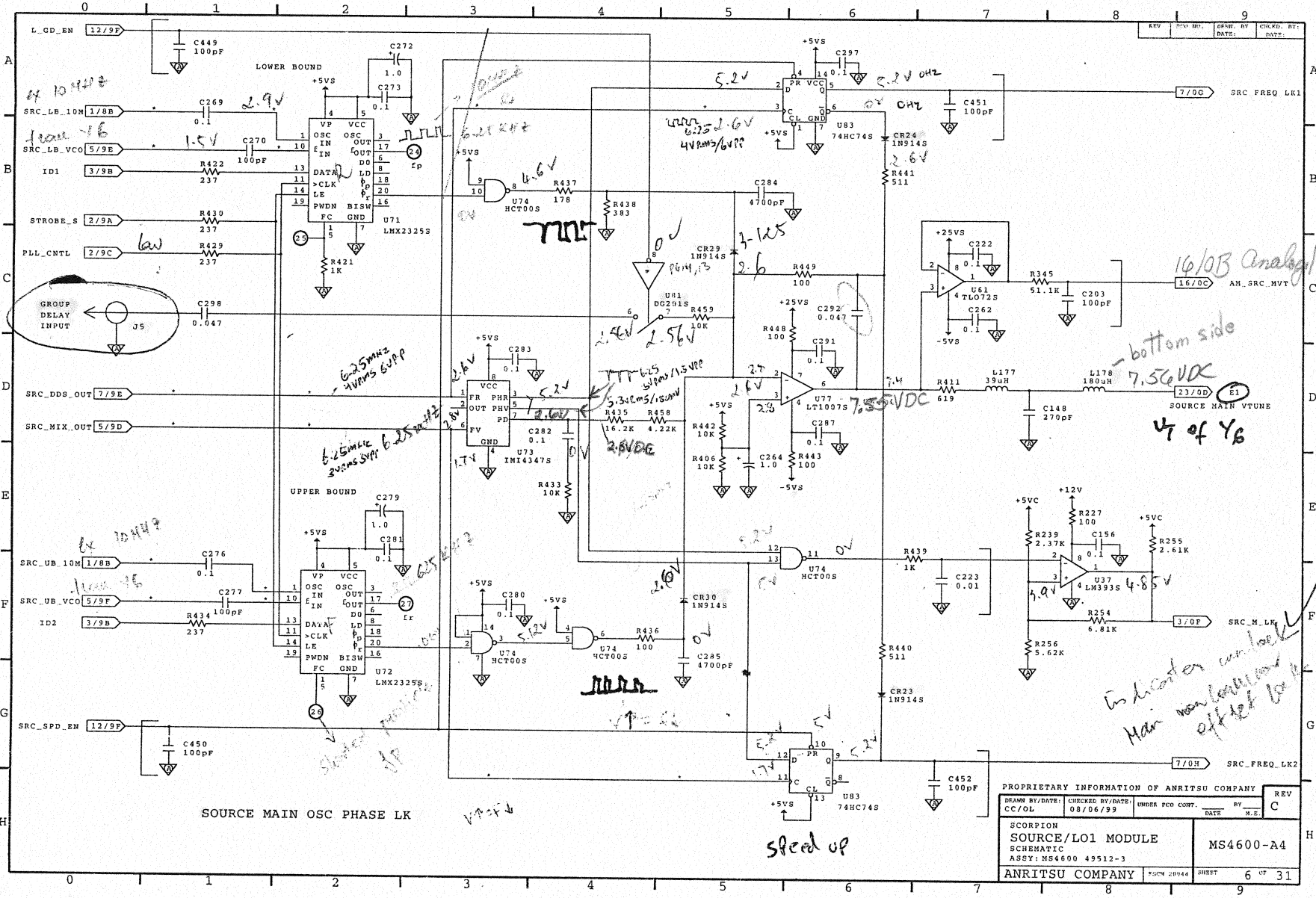
-2 -2

-15

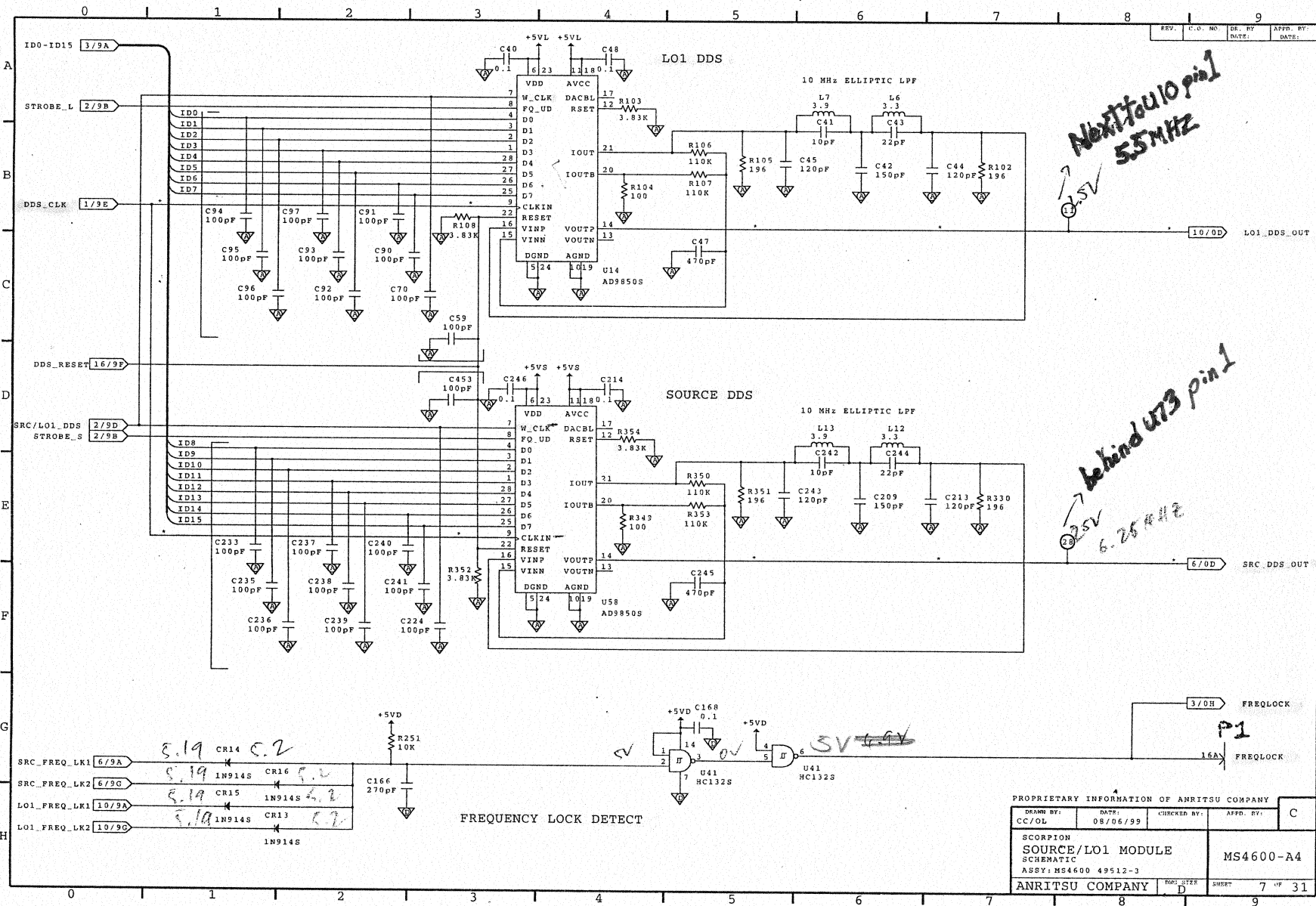
-20

4.5V
1.1V
0.147V
-7.5V

PROPRIETARY INFORMATION OF ANRITSU COMPANY				REV
DRAWN BY/DATE:	CHECKED BY/DATE:	UNDER PCO QWNT.	BY	C
CC/OL	08/06/99		DATE	N.E.
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4	
ANRITSU COMPANY		FIG-14 20944	SH357	5 OF 31

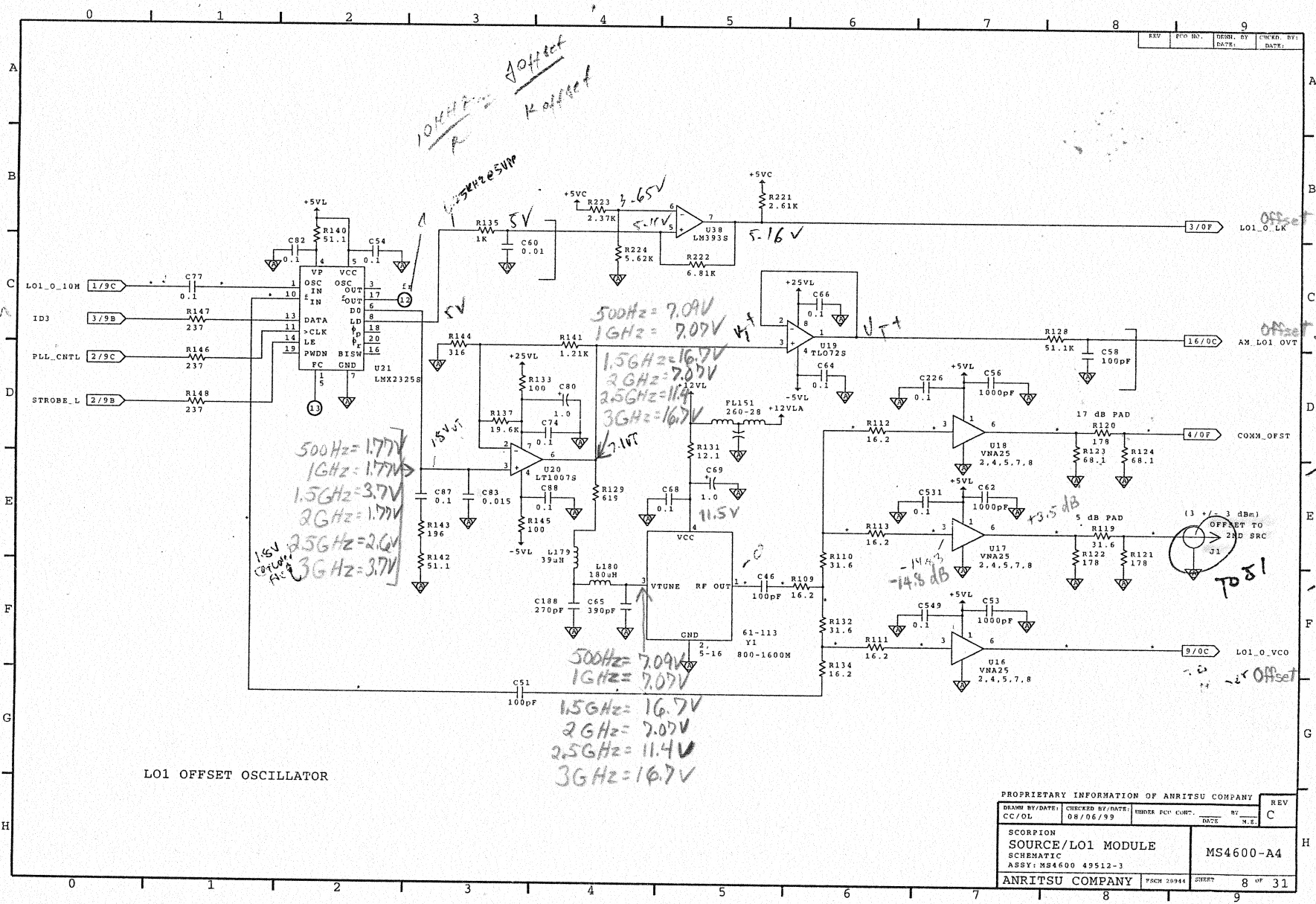


PROPRIETARY INFORMATION OF ANRITSU COMPANY				REV
DRAWN BY/DATE:	CHECKED BY/DATE:	UNDER P.C.O. CONF.	BY	C
CC/OL	08/06/99		DATE	M.E.
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4	
ANRITSU COMPANY		FIG. NO. 28944	SHEET	6 OF 31



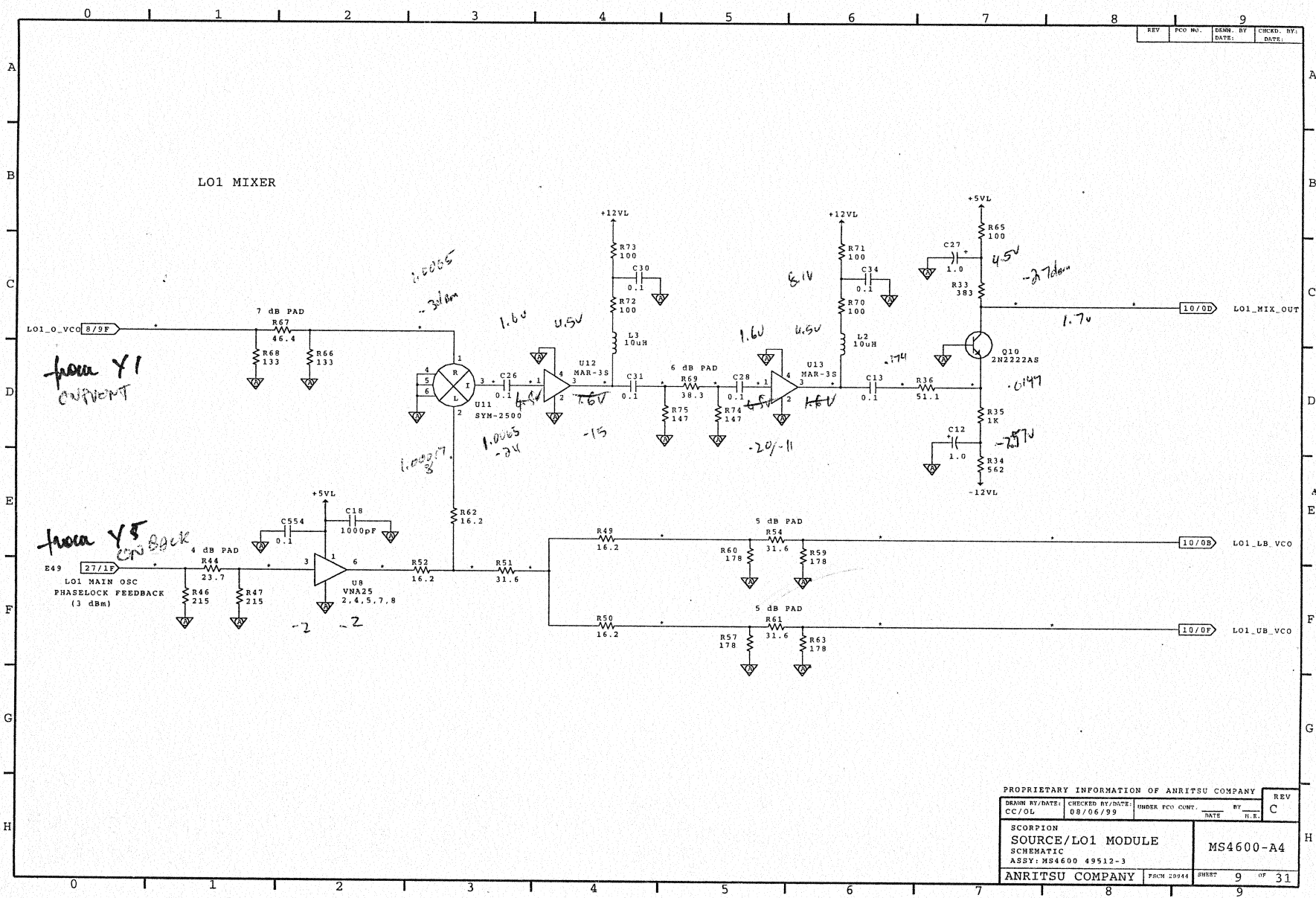
PROPRIETARY INFORMATION OF AMRITSU COMPANY			
DRAWN BY:	DATE:	CHECKED BY:	APPD. BY:
CC/OL	08/05/99		C
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4
ANRITSU COMPANY		SHEET	7 OF 31

CLOCK
TALKING TO YOU
DATA
SET



LO1 OFFSET OSCILLATOR

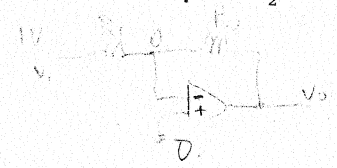
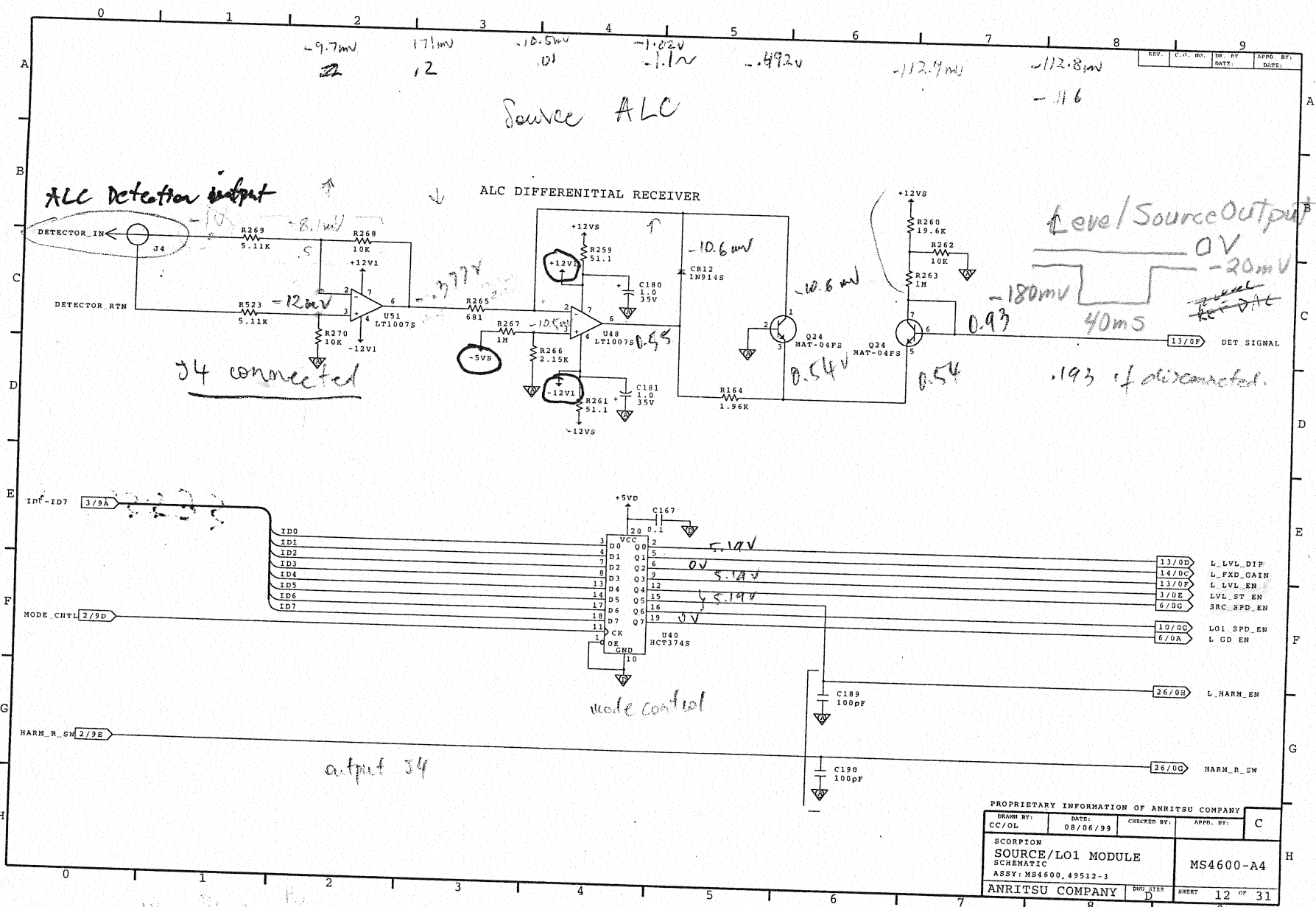
PROPRIETARY INFORMATION OF ANRITSU COMPANY				REV
DRAWN BY/DATE:	CHECKED BY/DATE:	DESIGNED BY/DATE:	DATE	BY
CC/OL	08/06/99	UNDER ECU CURT.		C
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4	
ANRITSU COMPANY			FORM 20944	8 OF 31



REV	PCO NO.	DESN. BY	CHECKED BY
		DATE:	DATE:

PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRWN BY/DATE:	CHECKED BY/DATE:	UNDER PCO CONT.	REV
CC/OL	08/06/99		C
SCORPION		DATE	U.L.K.
SOURCE/LO1 MODULE		MS4600-A4	
SCHEMATIC			
ASSY: MS4600 49512-3			
ANRITSU COMPANY		PACH 20944	SHEET 9 OF 31

-.425 @ 1µV/0.1µm
MULTIMETER

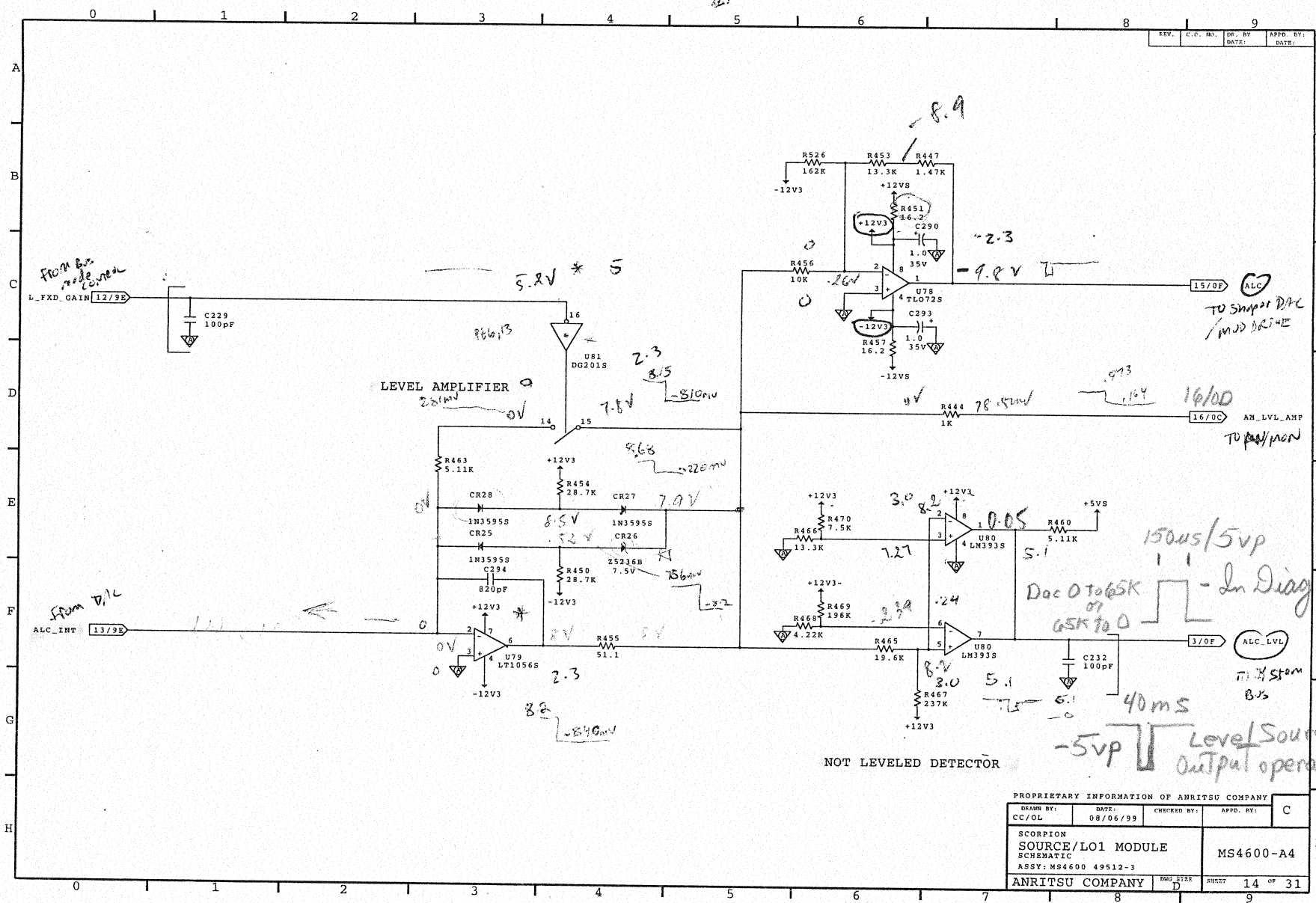


$$V_o = V_i \left(-\frac{R_2}{R_1} \right) = 1V / 10 \approx 0.1V$$

$$V_o = (V_i - V_f) \left(-\frac{R_2}{R_1} \right)$$

PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRAWN BY:	DATE:	CHECKED BY:	APPD. BY:
CC/OL	08/06/99		C
SCORPION		MS4600-A4	
SOURCE/LO1 MODULE			
SCHEMATIC			
ASSY: MS4600, 49512-3			
ANRITSU COMPANY	DWG. SIZE	SHEET	12 OF 31
	D		

@ 250msec
 5V 7L when dac set again at 65535



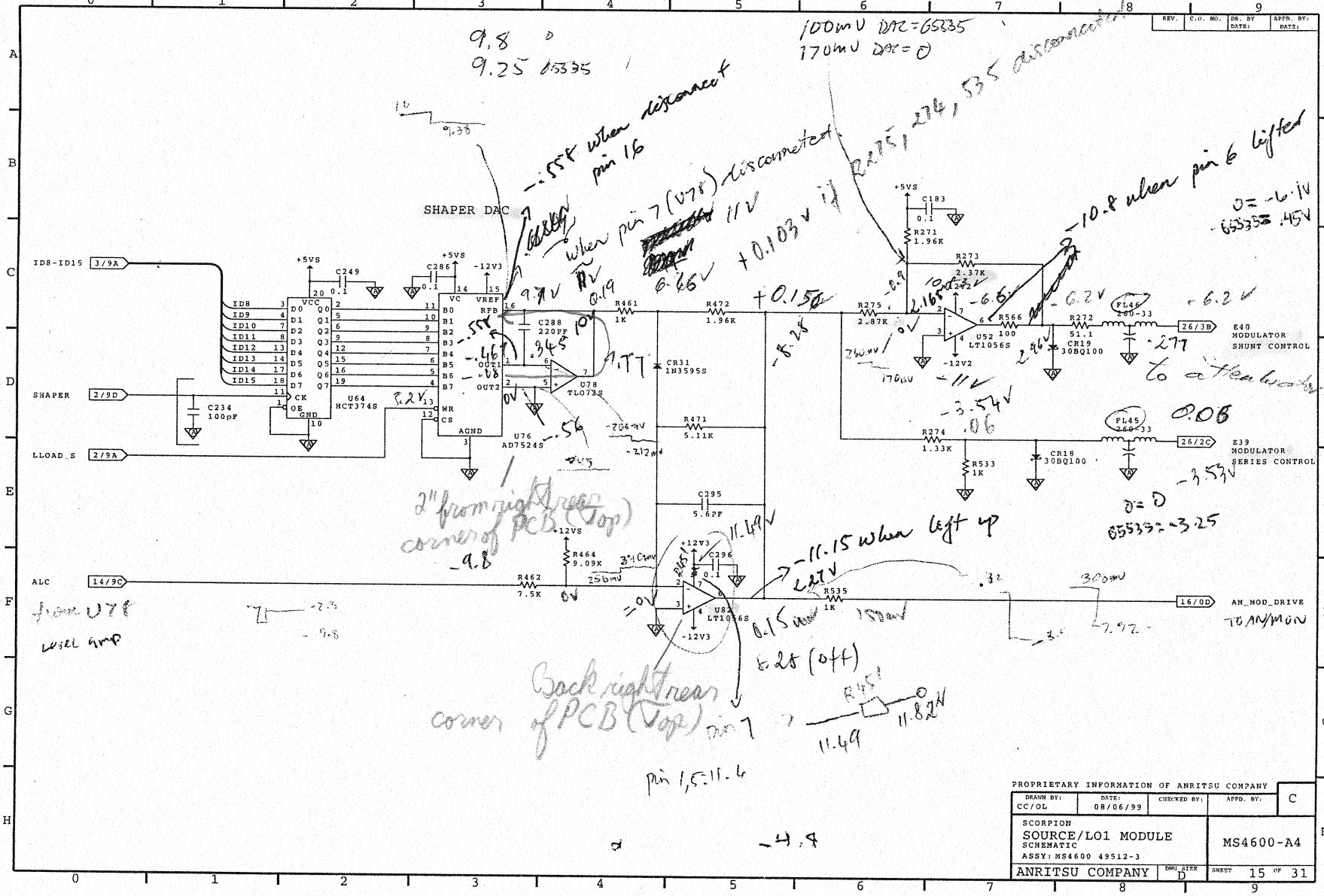
PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRAWN BY:	DATE:	CHECKED BY:	APPD. BY:
CC/OL	08/06/99		C
SCORPION SOURCE/LOI MODULE SCHEMATIC ASSY: M94600 49512-3			MS4600-A4
ANRITSU COMPANY		REV. 14	OF 31

26 27 28
 # 17 18 19



2-250mV

-2.2



9.8
9.25 65335

100mV DAC=65335
170mV DAC=0

55K when disconnect
pin 16

when pin 7 (U78) disconnected
11V
6.6V + 0.103V if R275, 274, 535 disconnected

-10.8 when pin 6 lifted
0 = -6.1V
-65335 = .45V

2" from right rear
corner of PCB (top)
-9.8

-11.15 when left up
LATV

Back right rear
corner of PCB (top)
pin 7
pin 1, 5, 11, 6

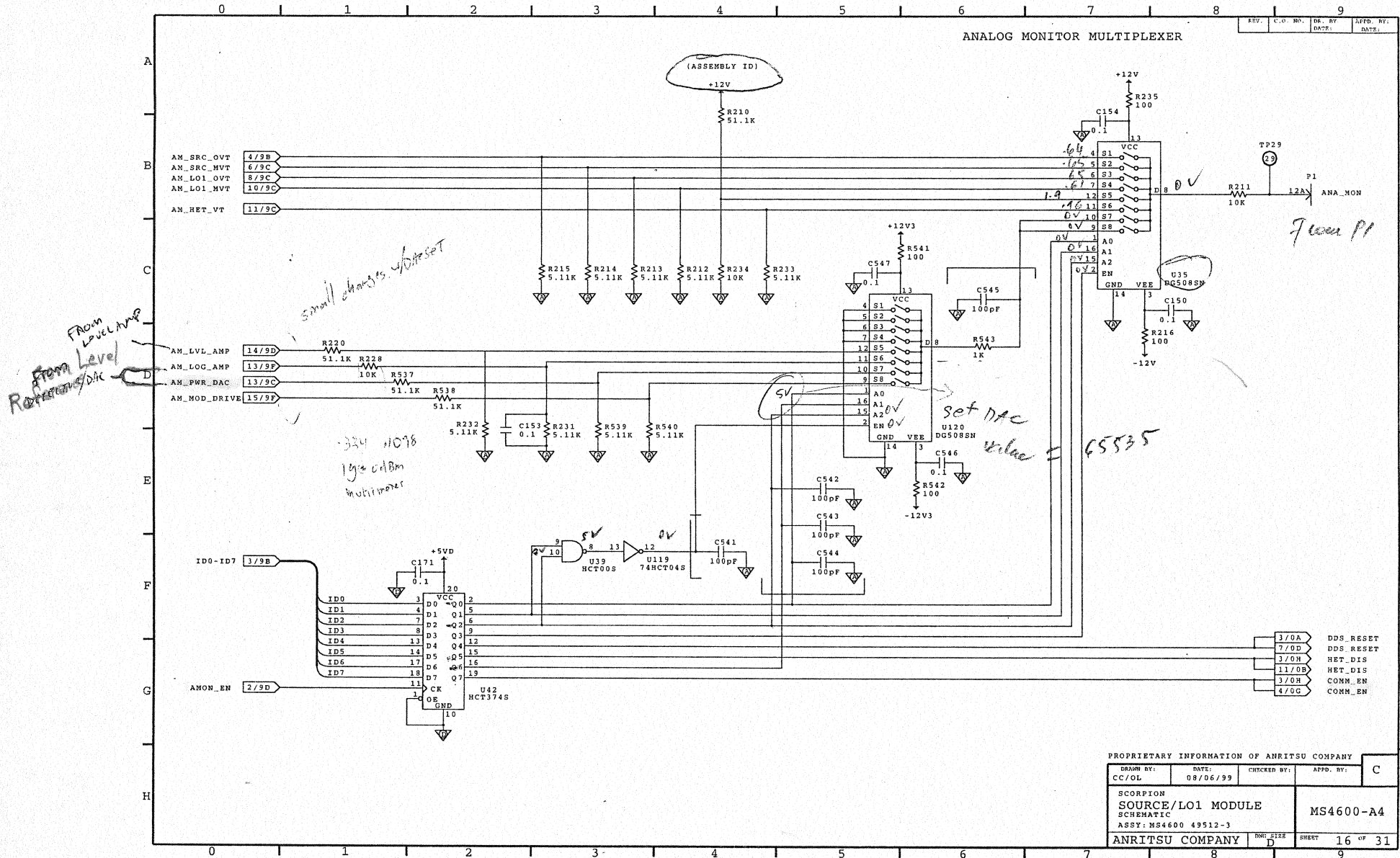
from U78
level amp

PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRAWN BY:	DATE:	CHECKED BY:	APPD. BY:
CC/OL	08/06/99		C
SCORPION SOURCE/LO1 MODULE SCHEMATIC		MS4600-A4	
ASSY: MS4600 49512-3			
ANRITSU COMPANY		DMU SIZE D	SHEET 15 OF 31

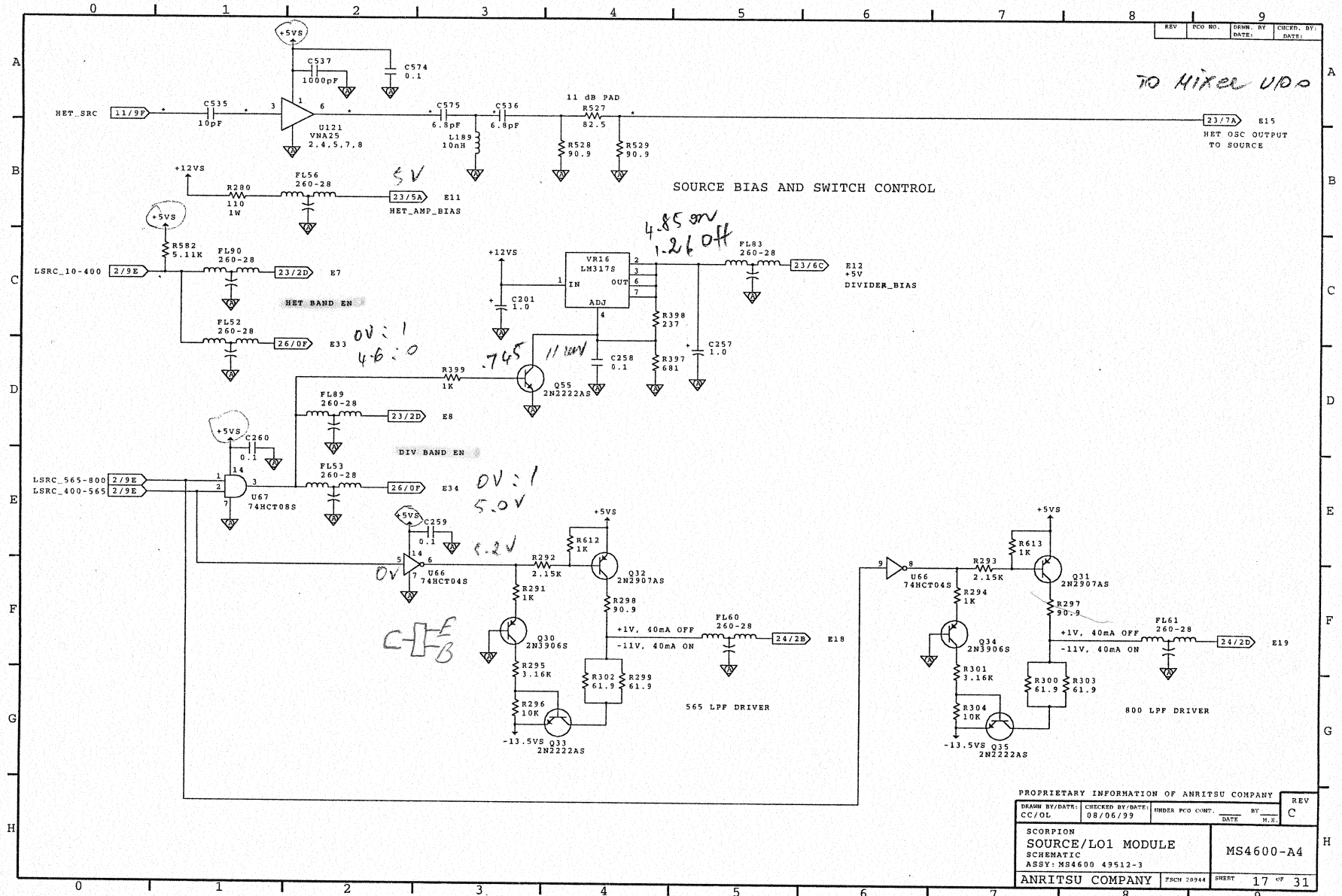
-4.9

ANALOG MONITOR MULTIPLEXER

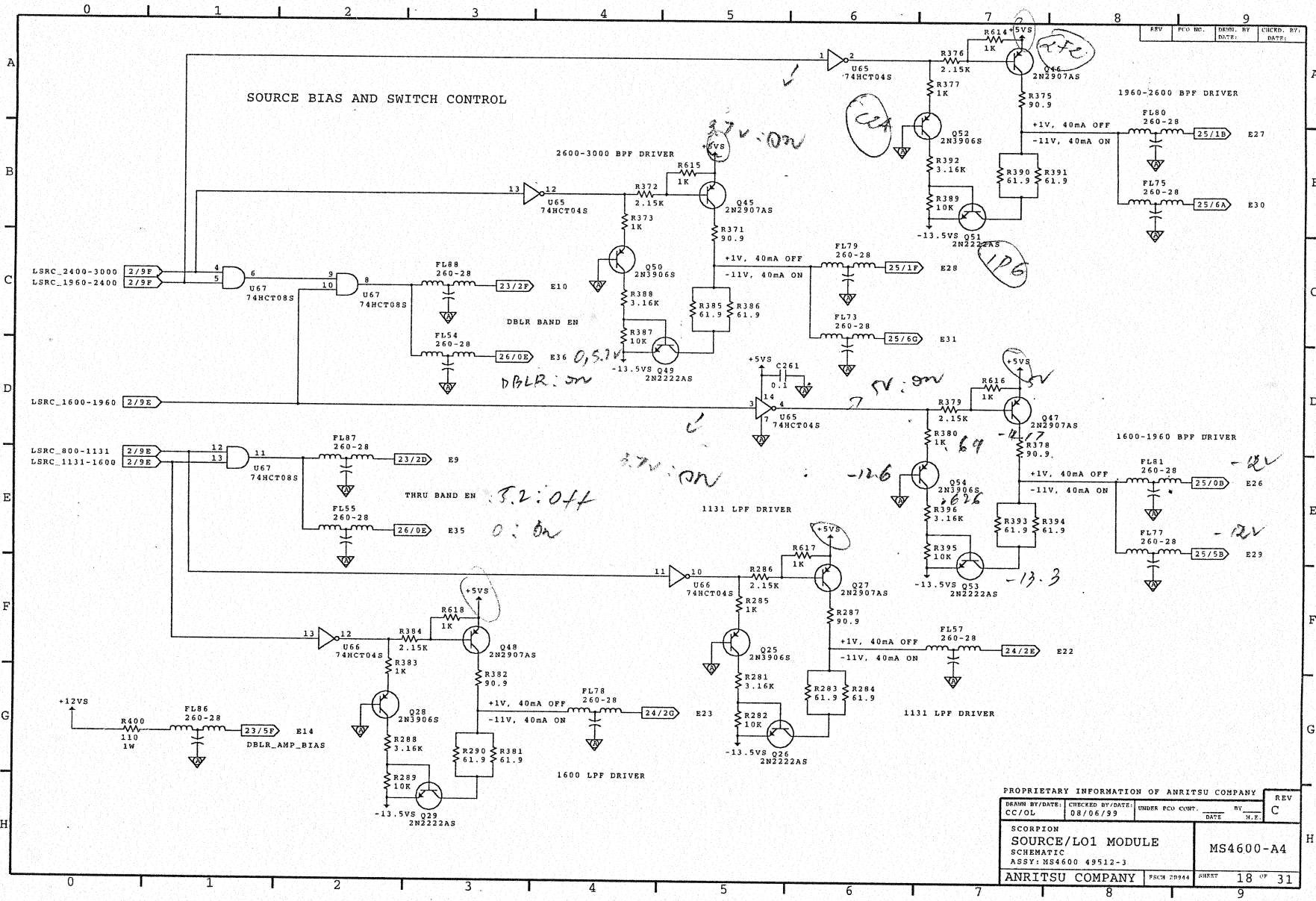
REV.	C.O. NO.	DR. BY	APPD. BY



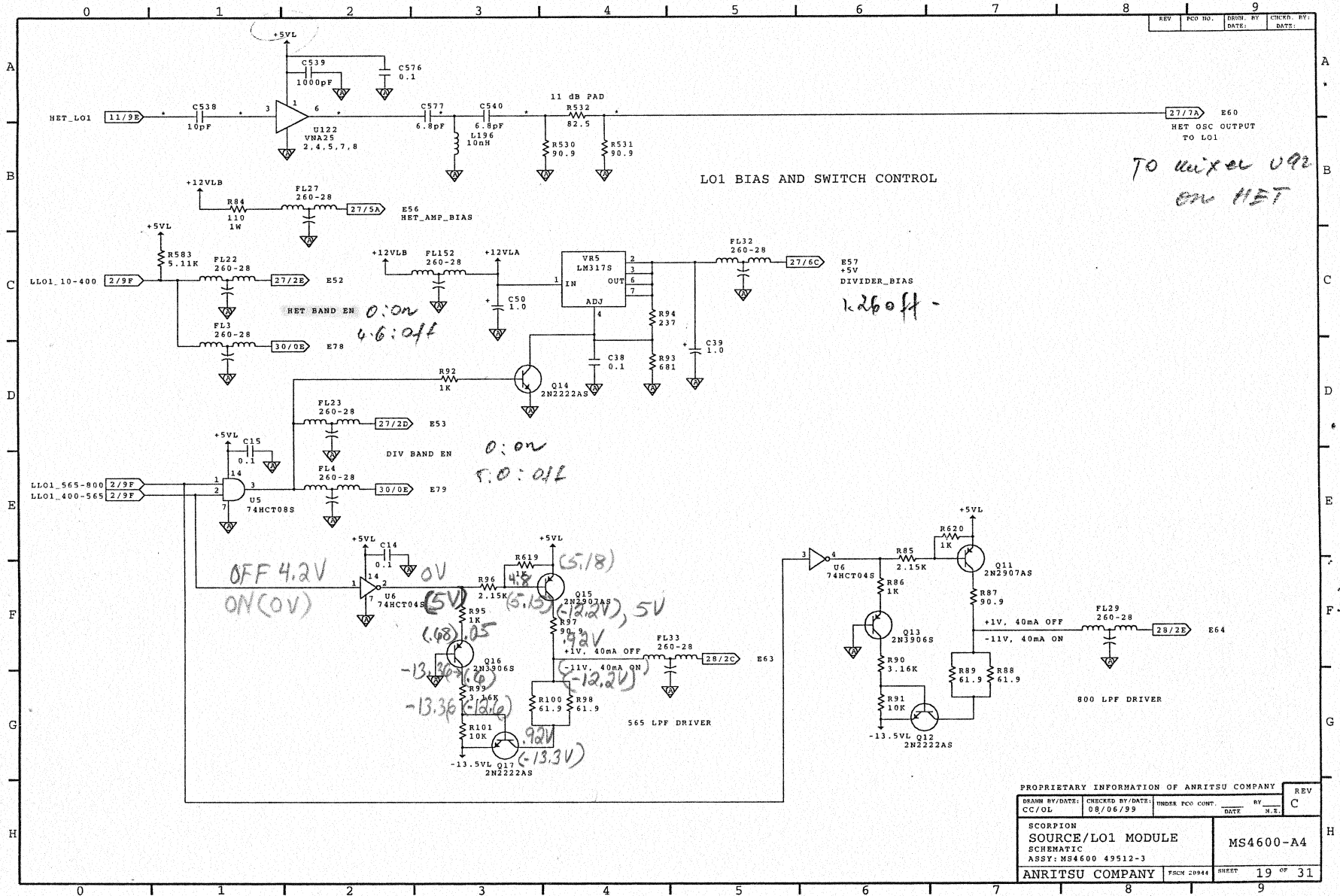
PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRAWN BY: CC/OL	DATE: 08/06/99	CHECKED BY:	APPD. BY: C
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4
ANRITSU COMPANY			DWG. SIZE D SHEET 16 OF 31



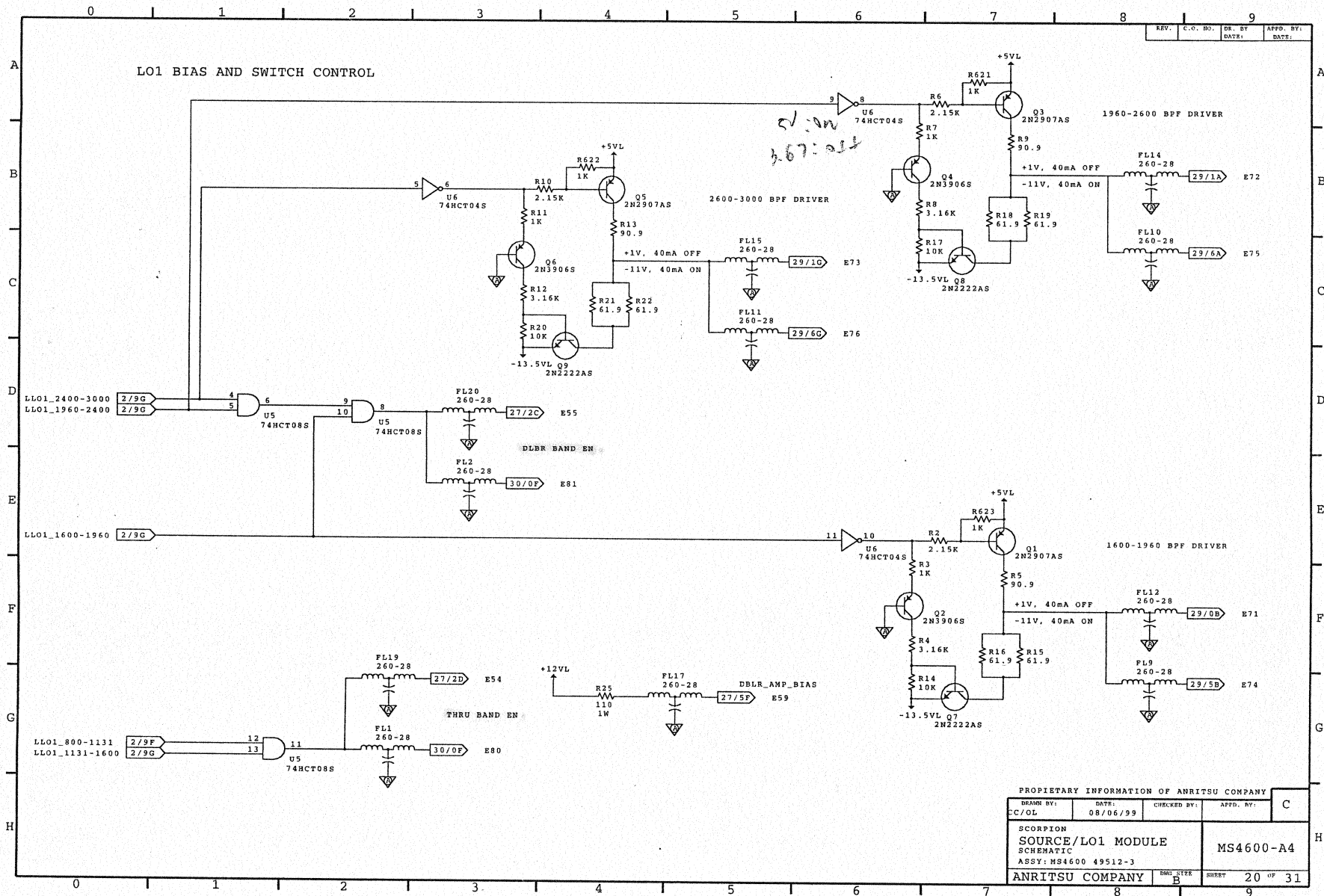
PROPRIETARY INFORMATION OF ANRITSU COMPANY				REV
DRAWN BY/DATE:	CHECKED BY/DATE:	UNDER PCO CNTR.	DATE	BY
CC/OL	08/06/99			C
SCORPION			M.E.	
SOURCE/LO1 MODULE			MS4600-A4	
SCHEMATIC				
ASSY: MS4600 49512-3				
ANRITSU COMPANY		FORM 28944	SHEET	17 OF 31



PROPRIETARY INFORMATION OF ANRITSU COMPANY				REV
DRAWN BY/DATE:	CHECKED BY/DATE:	UNDER PCO CONT.	BY	C
CC/OL	08/06/99		DATE	N.F.
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4	
ANRITSU COMPANY		FRCH 20944	ANRST	18 OF 31

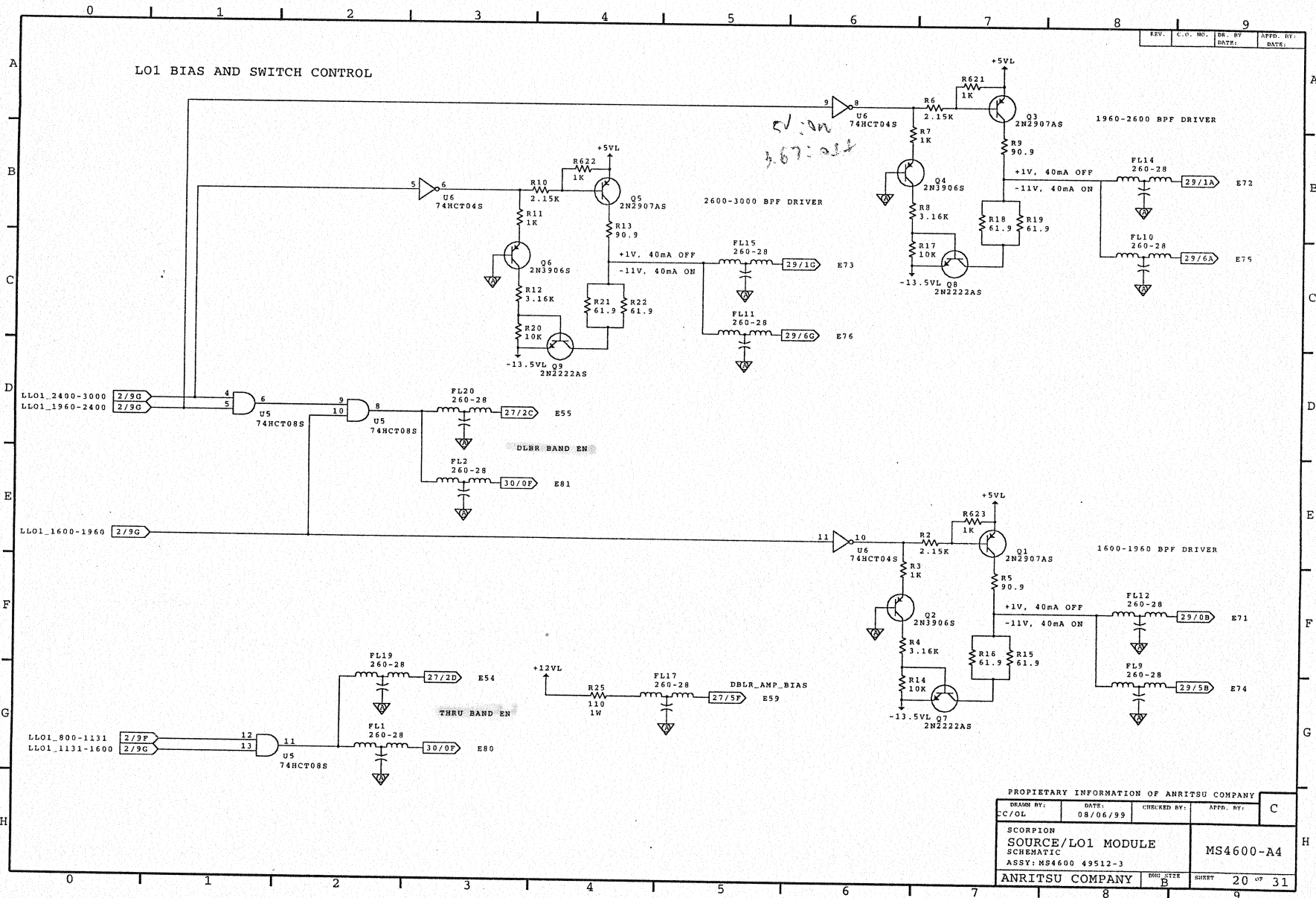


PROPRIETARY INFORMATION OF ANRITSU COMPANY				REV
DRAWN BY/DATE:	CHECKED BY/DATE:	UNDER PCO CONT.	BY	C
CC/OL	08/06/99		DATE	N.E.
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4	
ANRITSU COMPANY		FRM 20944	HEET	19 OF 31

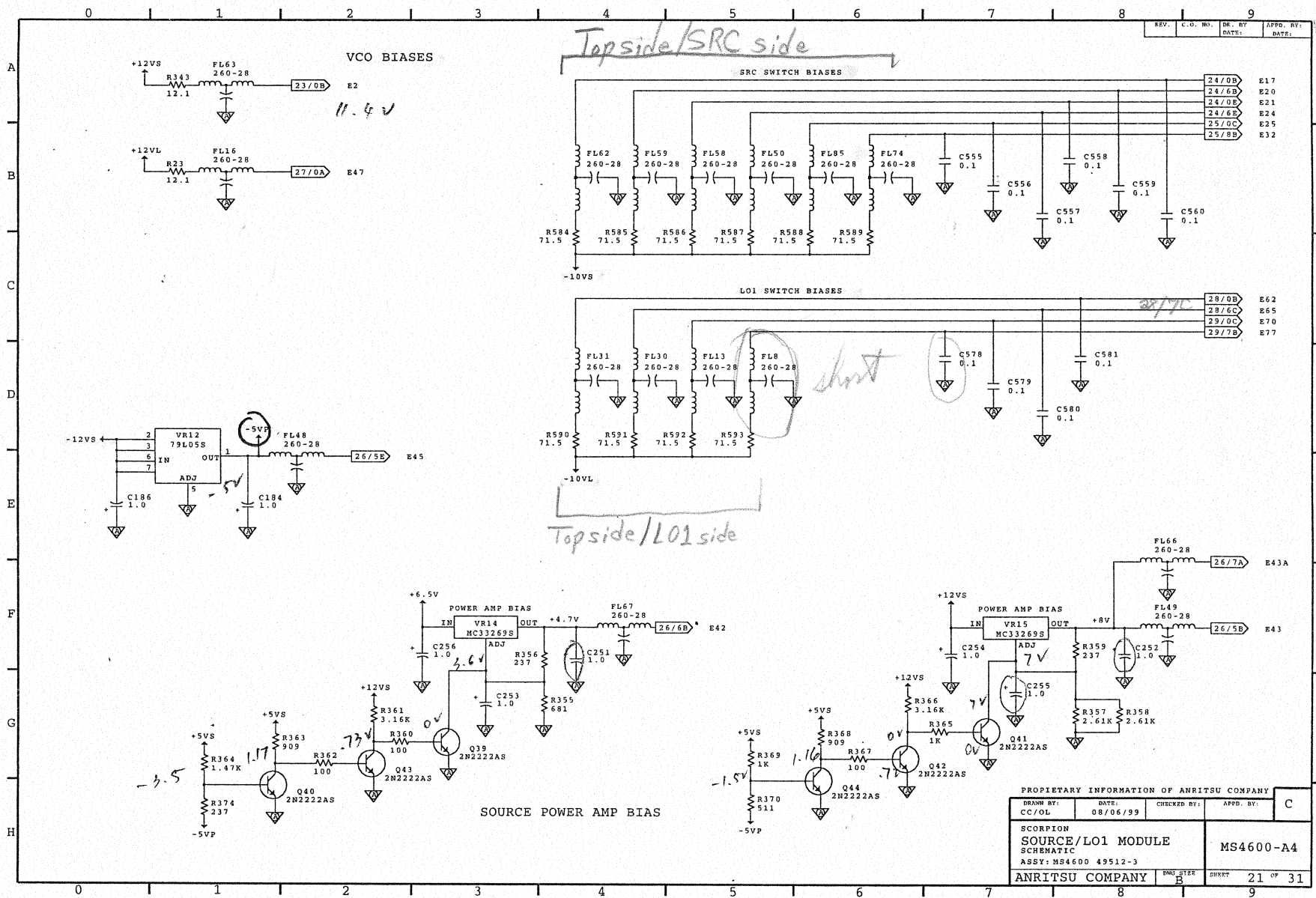


REV.	C.O. NO.	DR. BY	APPD. BY
		DATE:	DATE:

PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRAWN BY:	DATE:	CHECKED BY:	APPD. BY:
CC/OL	08/06/99		C
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4
ANRITSU COMPANY		DRG. LETTER	SHEET 20 OF 31



PROPRIETARY INFORMATION OF ANRITSU COMPANY				
DRAWN BY:	DATE:	CHECKED BY:	APPD. BY:	C
CC/OL	08/06/99			
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3				MS4600-A4
ANRITSU COMPANY			REV. 2128 E	SHEET 20 OF 31

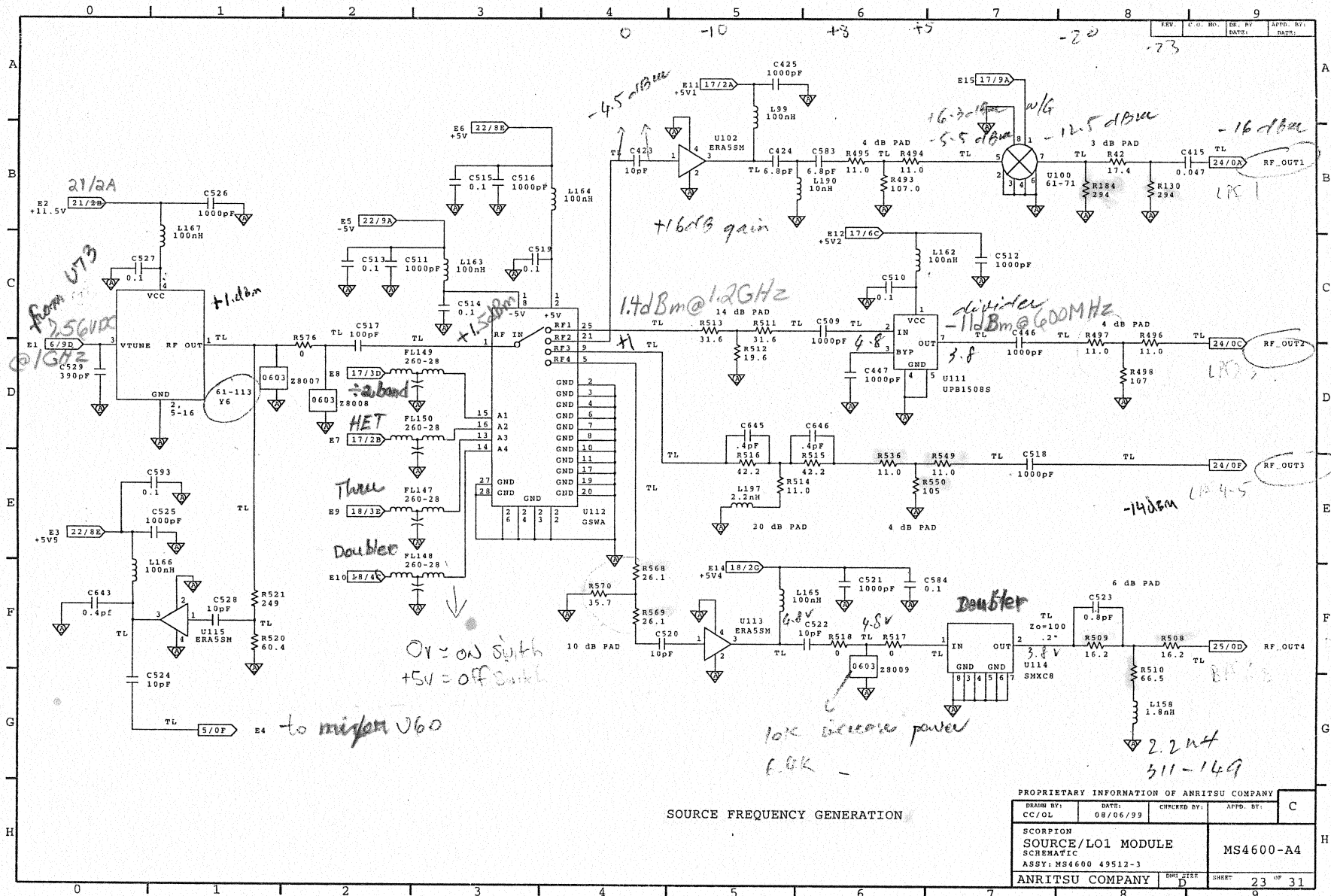


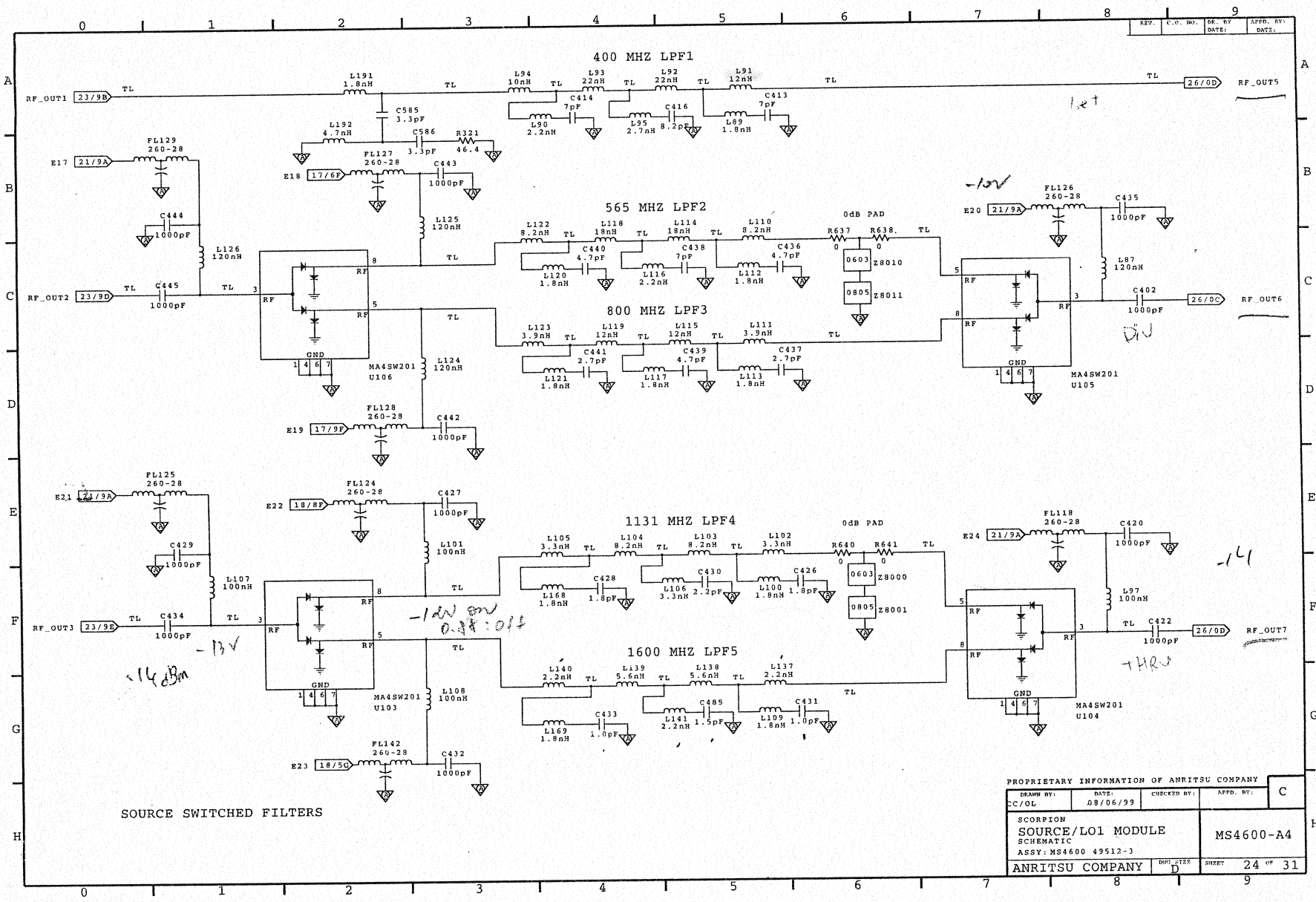
REV.	C.O. No.	DR. BY	DATE:	APPR. BY:	DATE:
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24/0B	E17
24/6B	E20
24/0E	E21
24/6E	E24
25/0C	E25
25/8B	E32

28/0B	E62
28/6C	E65
29/0C	E70
29/7B	E77

PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRAWN BY:	DATE:	CHECKED BY:	APPR. BY:
CC/OL	08/06/93		C
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4
ANRITSU COMPANY		DWG. SIZE E	SHEET 21 OF 31

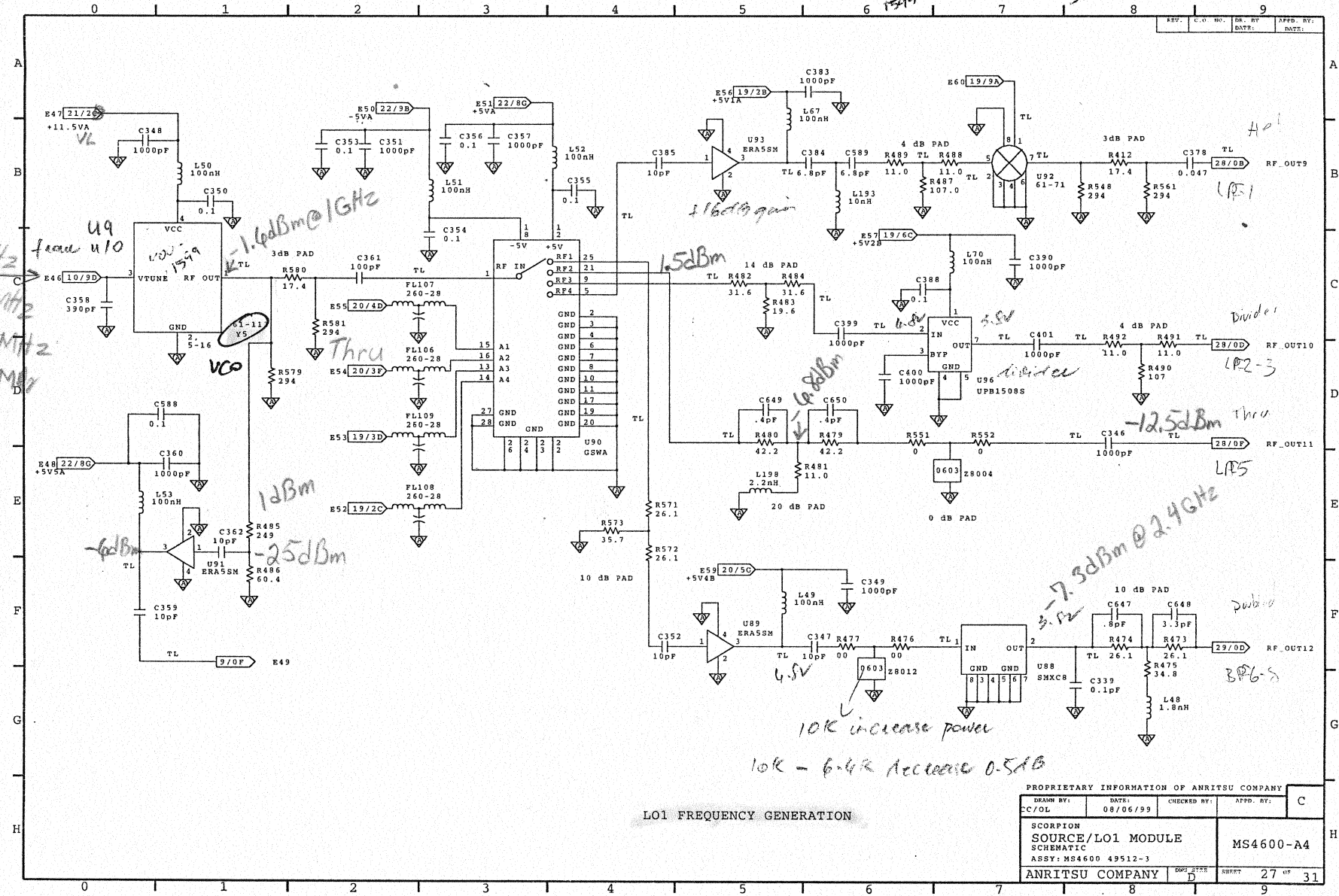




PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRAWN BY:	DATE:	CHECKED BY:	APPD. BY:
C/OL	08/06/99		C
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4
ANRITSU COMPANY		D	24 OF 31

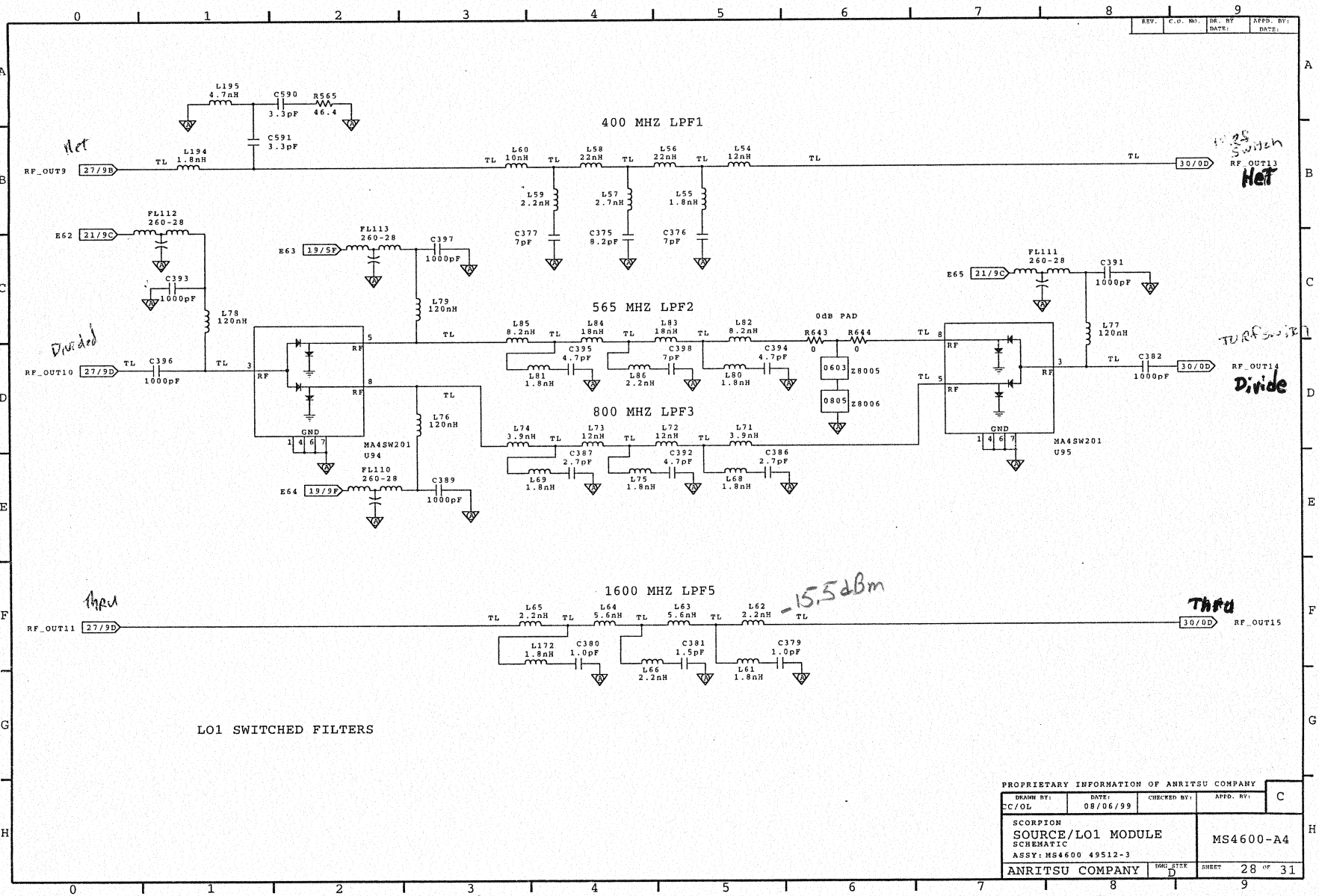
RF
1210
1599
1200 = freq
10MHz
399

3VDC = 800MHz
9.3VDC = 1600MHz
0.7VDC = 1200MHz
7.2VDC = 1000MHz



LO1 FREQUENCY GENERATION

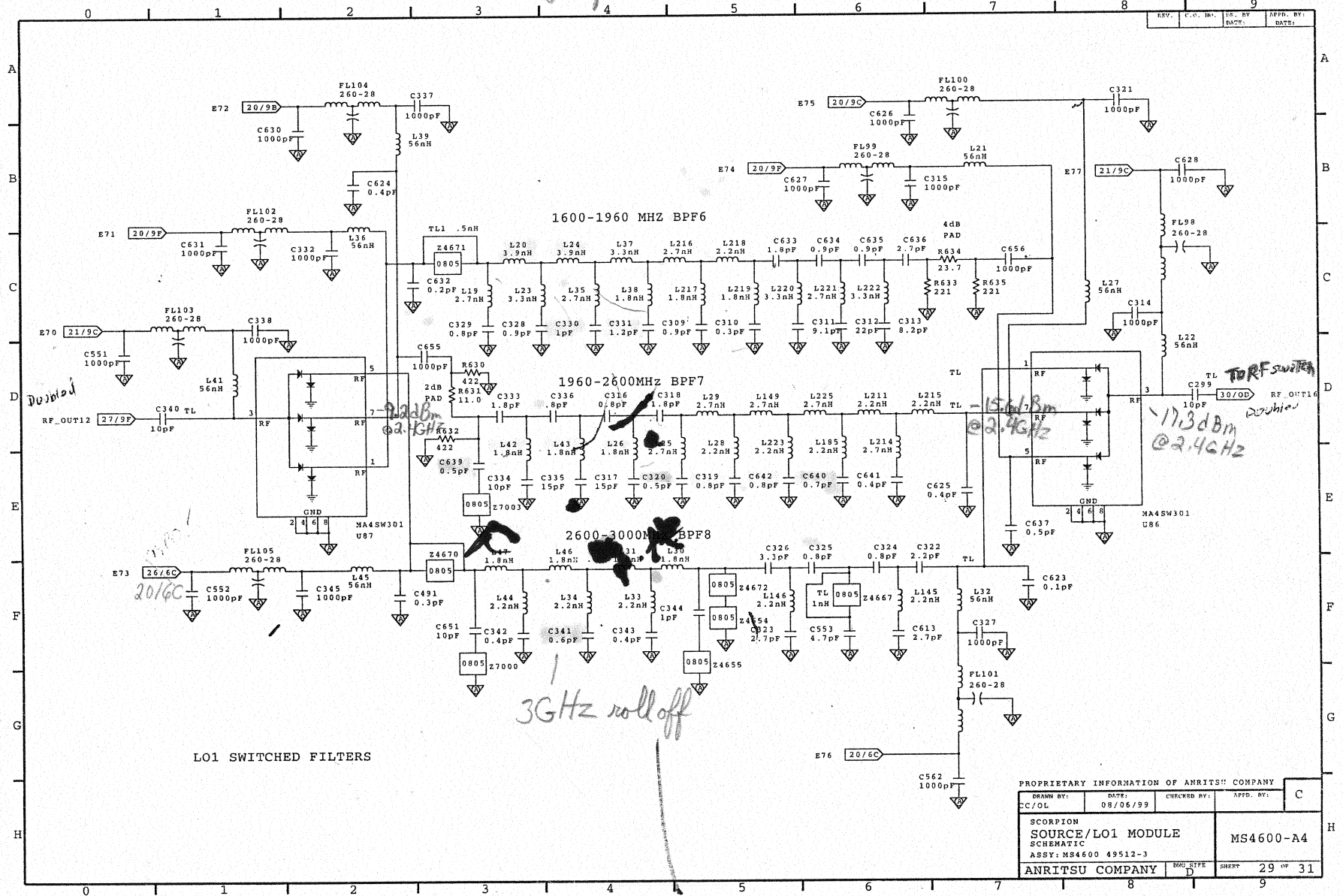
PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRAWN BY:	DATE:	CHECKED BY:	APPD. BY:
CC/OL	08/06/99		C
SCORPION			
SOURCE/LO1 MODULE		MS4600-A4	
SCHEMATIC			
ASSY: MS4600 49512-3			
ANRITSU COMPANY		DATE:	SHEET: 27 OF 31



REV.	C.O. No.	DR. BY	APPD. BY:
		DATE:	DATE:

PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRAWN BY:	DATE:	CHECKED BY:	APPD. BY:
CC/OL	08/06/99		C
SCORPION SOURCE/LO1 MODULE SCHEMATIC ASSY: MS4600 49512-3			MS4600-A4
ANRITSU COMPANY		DRG. REC. D	SHEET 28 OF 31

Outside Edge of PCB



PROPRIETARY INFORMATION OF ANRITSU COMPANY			
DRAWN BY:	DATE:	CHECKED BY:	APPD. BY:
CC/OL	08/06/99		C
SCORPION SOURCE/LO1 MODULE SCHEMATIC			MS4600-A4
ASSY: MS4600 49512-3			
ANRITSU COMPANY		ENGR: RFE	29 10 31

