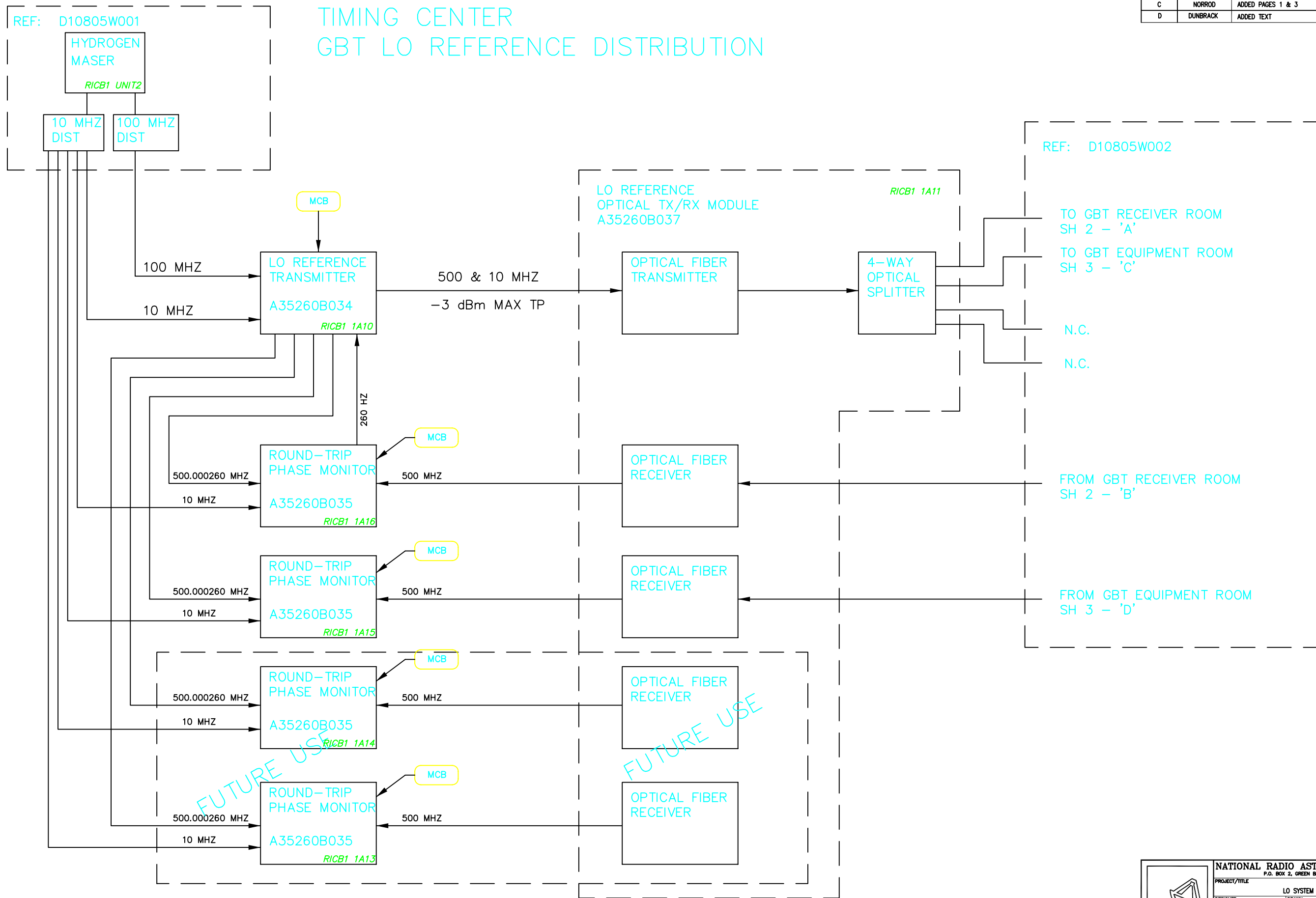


REVISIONS					
REVISION	MADE BY	DESCRIPTION	ZONE	DATE	APPROVED
A	SIMON	ADD OUTPUT NOMENCLATURE		11/24/92	
B	SIMON	ASSIGN BOM LISTINGS		3/18/93	
C	NORROD	ADDED PAGES 1 & 3		3/26/96	
D	DUNBRACK	ADDED TEXT	ALL	5/03/01	

# TIMING CENTER GBT LO REFERENCE DISTRIBUTION



REF: D10805W002

TO GBT RECEIVER ROOM  
SH 2 - 'A'

TO GBT EQUIPMENT ROOM  
SH 3 - 'C'

N.C.

N.C.

FROM GBT RECEIVER ROOM  
SH 2 - 'B'

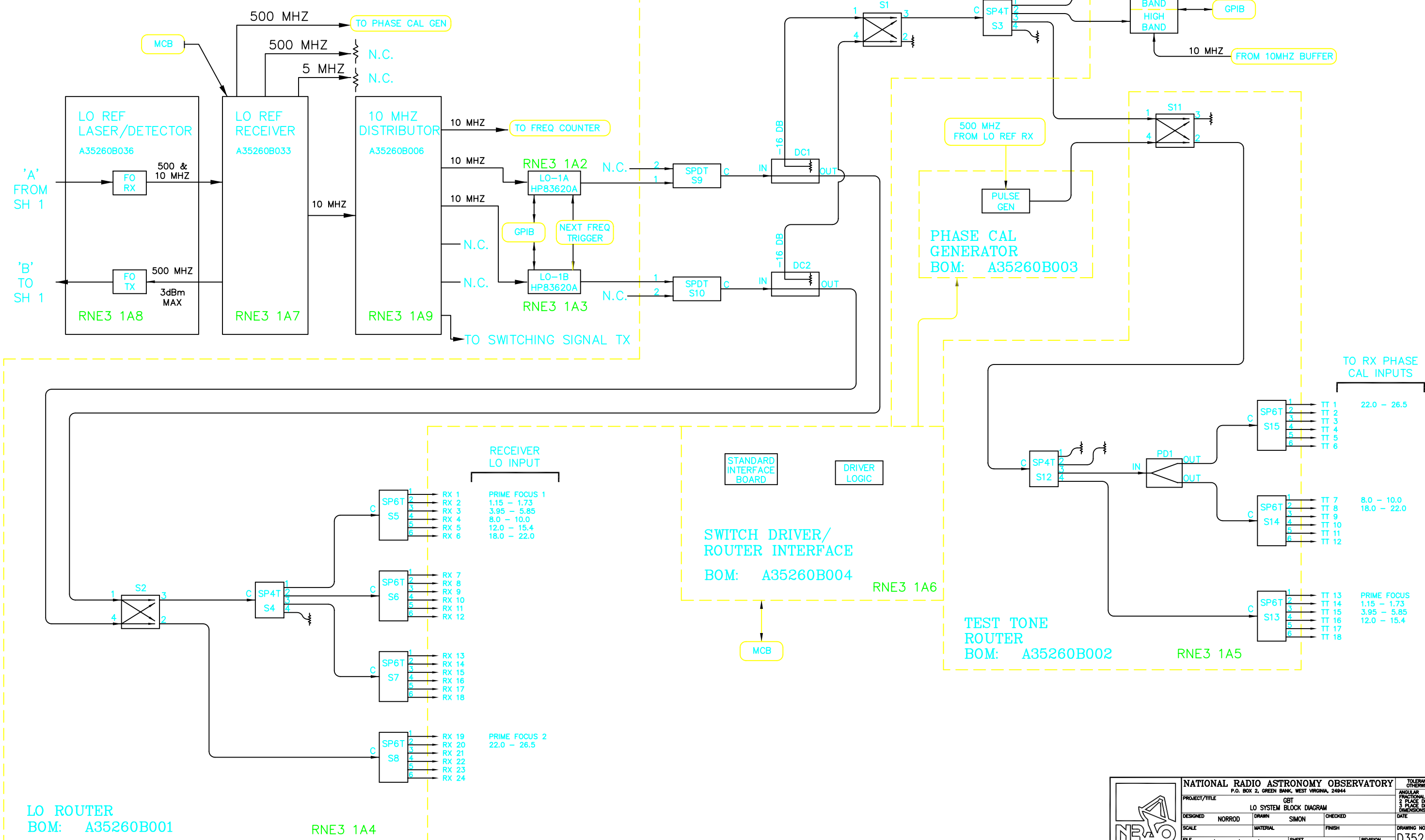
FROM GBT EQUIPMENT ROOM  
SH 3 - 'D'

FUTURE USE

FUTURE USE

		<b>NATIONAL RADIO ASTRONOMY OBSERVATORY</b> <small>P.O. BOX 2, GREEN BANK, WEST VIRGINIA, 24944</small>			<small>TOLERANCES UNLESS OTHERWISE SPECIFIED</small>	
		<small>PROJECT/TITLE</small> GBT LO SYSTEM BLOCK DIAGRAM		<small>ANGULAR</small> ±0/30 <small>FRACTIONAL</small> ±1/64 <small>2 PLACE DECIMAL</small> ±.01 <small>3 PLACE DECIMAL</small> ±.005 <small>DIMENSIONS ARE IN INCHES</small>		
<small>DESIGNED</small> R. NORROD	<small>DRAWN</small> R. SIMON	<small>CHECKED</small> 	<small>DATE</small> 9/92	<small>DRAWING NO.</small> D35260K003		
<small>SCALE</small> NTS	<small>MATERIAL</small> 	<small>FINISH</small> 	<small>FILE</small> ARCHIVE\GBTELEC\35260\K003C-1	<small>SHEET</small> 1 OF 3	<small>REVISION</small> D	

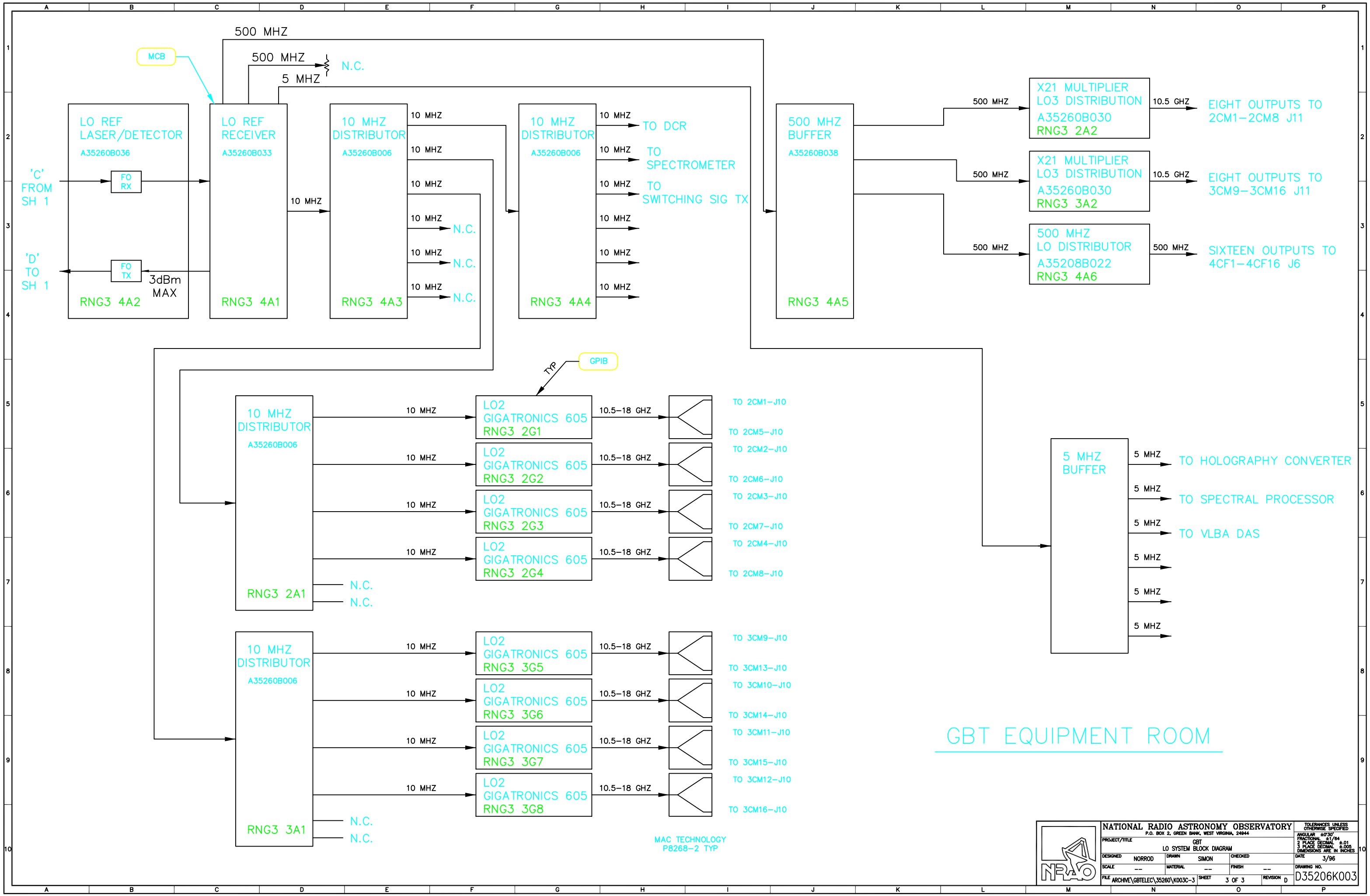
# GBT RECEIVER ROOM



LO ROUTER  
BOM: A35260B001

RNE3 1A4

				<b>NATIONAL RADIO ASTRONOMY OBSERVATORY</b> P.O. BOX 2, GREEN BANK, WEST VIRGINIA, 24944		TOLERANCES UNLESS OTHERWISE SPECIFIED ANGULAR ±0.30 FRACTIONS ±1/64 2 PLACE DECIMAL ±0.01 DIMENSIONS ARE IN INCHES	
PROJECT/TITLE GBT LO SYSTEM BLOCK DIAGRAM				DATE 9/92		DRAWING NO. D35260K003	
DESIGNED	NORROD	DRAWN	SIMON	CHECKED		SHEET 2 OF 3	
SCALE		MATERIAL		FINISH		REVISION D	
FILE ARCHIVE\GBTELEC\35260\K003C-2				SHEET 2 OF 3		REVISION D	



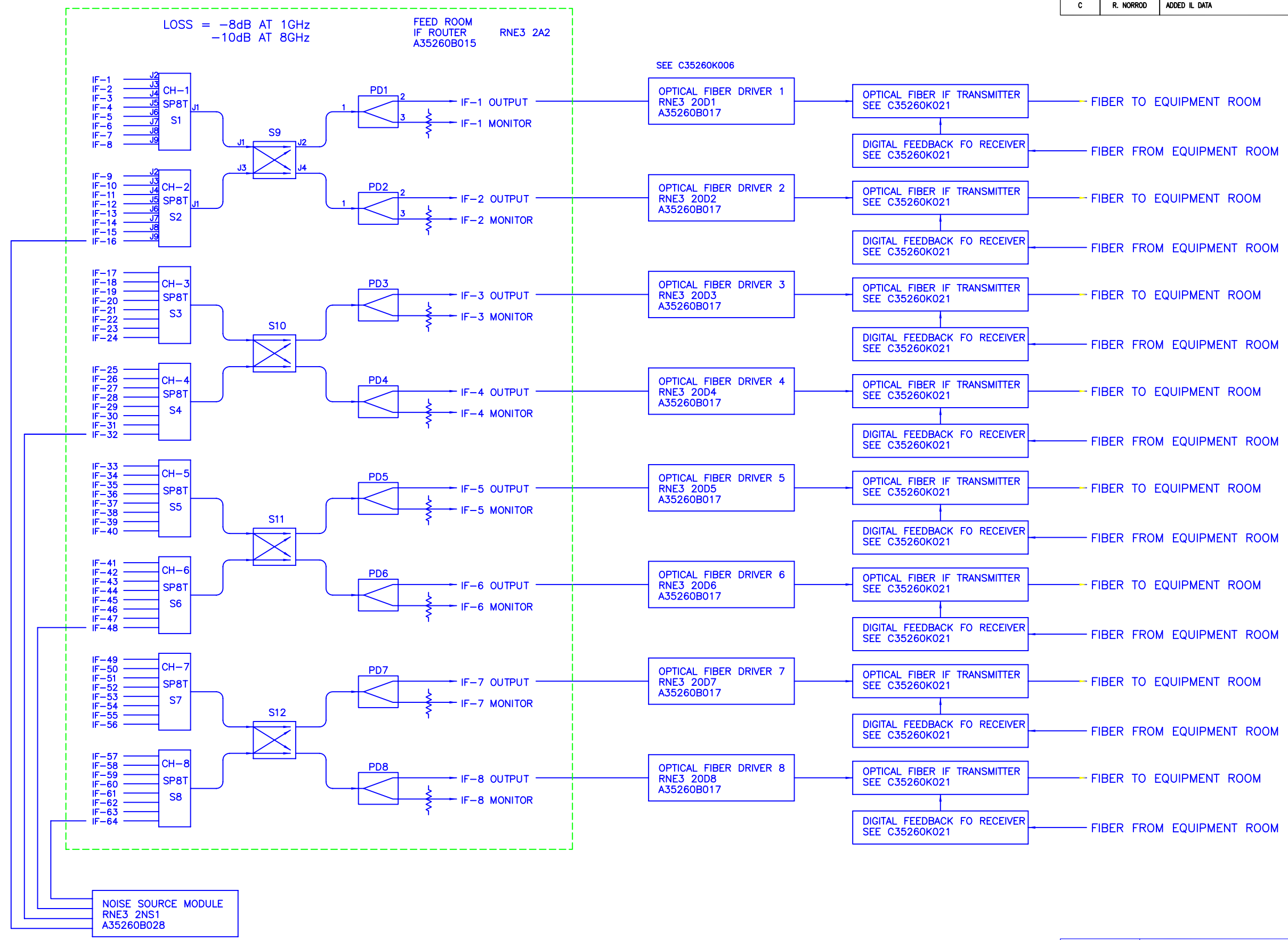
GBT EQUIPMENT ROOM

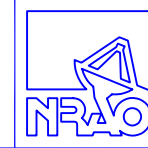
MAC TECHNOLOGY  
P8268-2 TYP



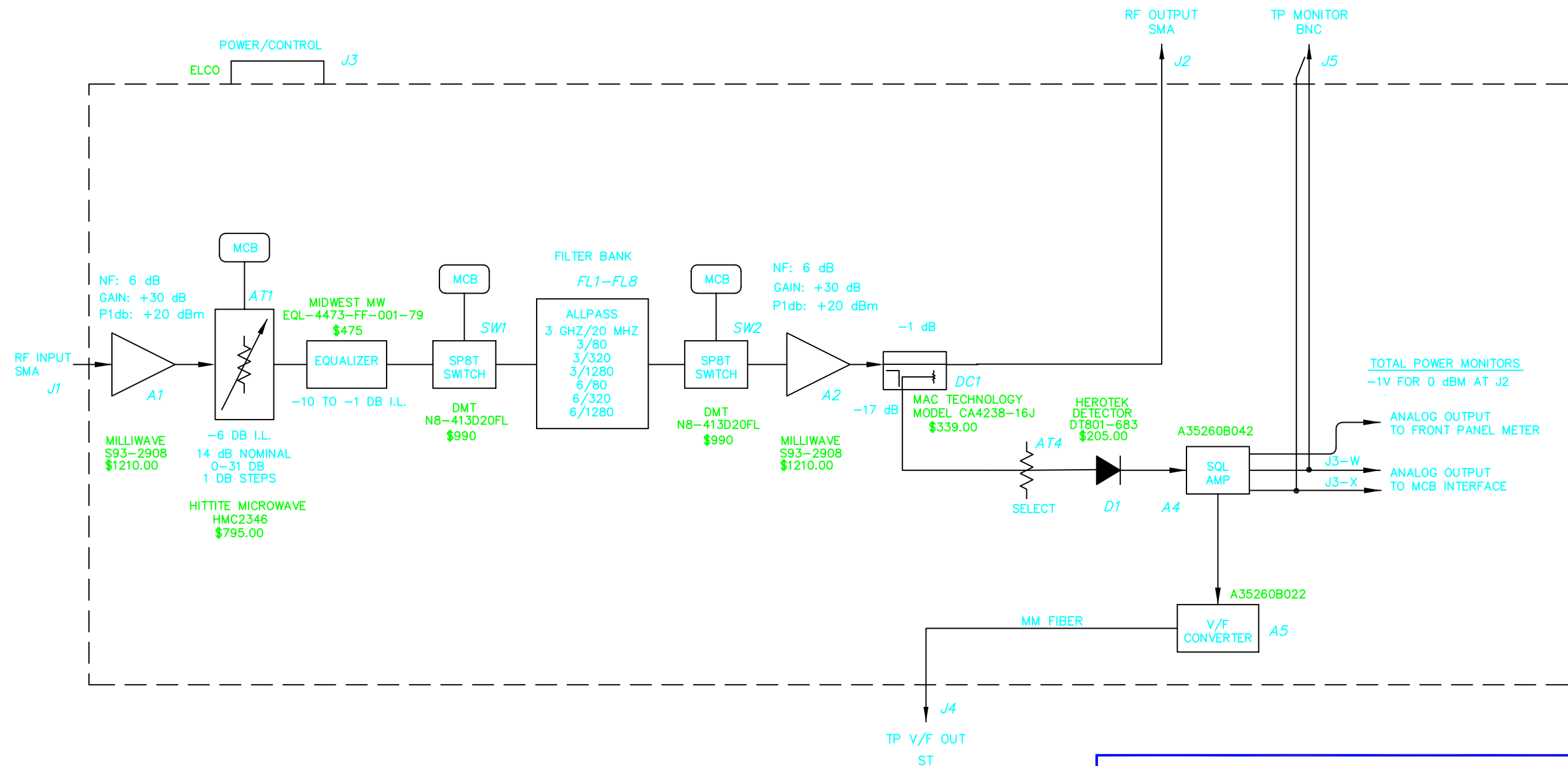
<b>NATIONAL RADIO ASTRONOMY OBSERVATORY</b> P.O. BOX 2, GREEN BANK, WEST VIRGINIA, 24944				TOLERANCES UNLESS OTHERWISE SPECIFIED ANGULAR ±0/30 FRACTIONAL ±1/64 3 PLACE DECIMAL ±0.005 DIMENSIONS ARE IN INCHES	
PROJECT/TITLE	GBT LO SYSTEM BLOCK DIAGRAM			DATE	3/96
DESIGNED	NORROD	DRAWN	SIMON	CHECKED	---
SCALE	---	MATERIAL	---	FINISH	---
FILE	ARCHIVE\GBTELEC\35260\K003C-3	SHEET	3 OF 3	REVISION	D
DRAWING NO.					D35206K003

REVISIONS					
REVISION	MADE BY	DESCRIPTION	ZONE	DATE	APPROVED
A	R. NORROD	ADDED IF CONNECTIONS	ALL	03/18/96	
B	R. TAGGART	ADDED OPTICAL FIBER TRANSMITTER AND DIGITAL FEEDBACK BLOCKS	ALL	01/29/01	
C	R. NORROD	ADDED IL DATA	---	12/10/03	



				<b>NATIONAL RADIO ASTRONOMY OBSERVATORY</b> P.O. BOX 2, GREEN BANK, WEST VIRGINIA, 24944		TOLERANCES UNLESS OTHERWISE SPECIFIED ANGULAR ±0.30° FRACTIONAL ±1/64 2 PLACE DECIMAL ±.01 3 PLACE DECIMAL ±.005 DIMENSIONS ARE IN INCHES	
PROJECT/TITLE RECEIVER ROOM IF RACK RF BLOCK DIAGRAM							
DESIGNED	R. NORROD	DRAWN	R. TAGGART	CHECKED		DATE	05/02/95
SCALE	---	MATERIAL	---	FINISH	---	DRAWING NO.	D35260K004
FILE	ARCHIVE\GBTELEC\35260\K004	SHEET	1 OF 1	REVISION	C		

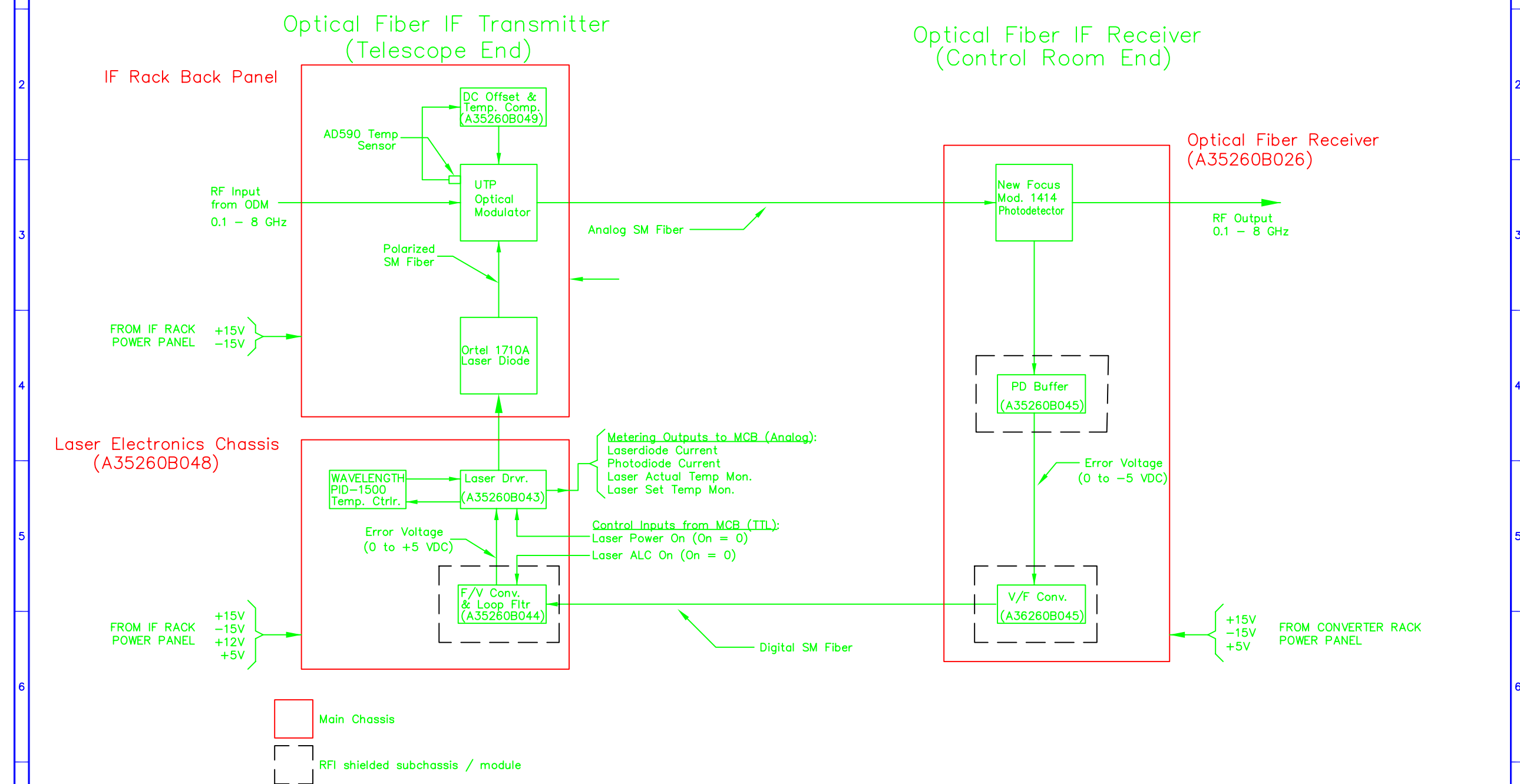
REV	DATE	BY	DESCRIPTION
A	6/20/94	RJS	SEPERATE VIDEO AMP AND V/F BLOCKS
B	3/27/95	RJS	CHANGE TO HITTITE ATTENUATOR
C	9/21/95	RJS	ADD DC BLOCK
D	3/18/96	RDN	CHANGE TO MAC COUPLER, REARRANGE
E	9/22/97	RET	ADD TEMP. CONTROLLED RACK, REARRANGE
F	2/3/98	RDN	REMOVE LASER & MODULATOR
G	4/17/98	RDN	ADD EQUALIZER AND TP MONITOR
H	11/26/03	RDN	ADD P1dB AND NF SPECS



REF A35260B017 - BILL OF MATERIALS  
 REF C35260W002 - WIRING DIAGRAM

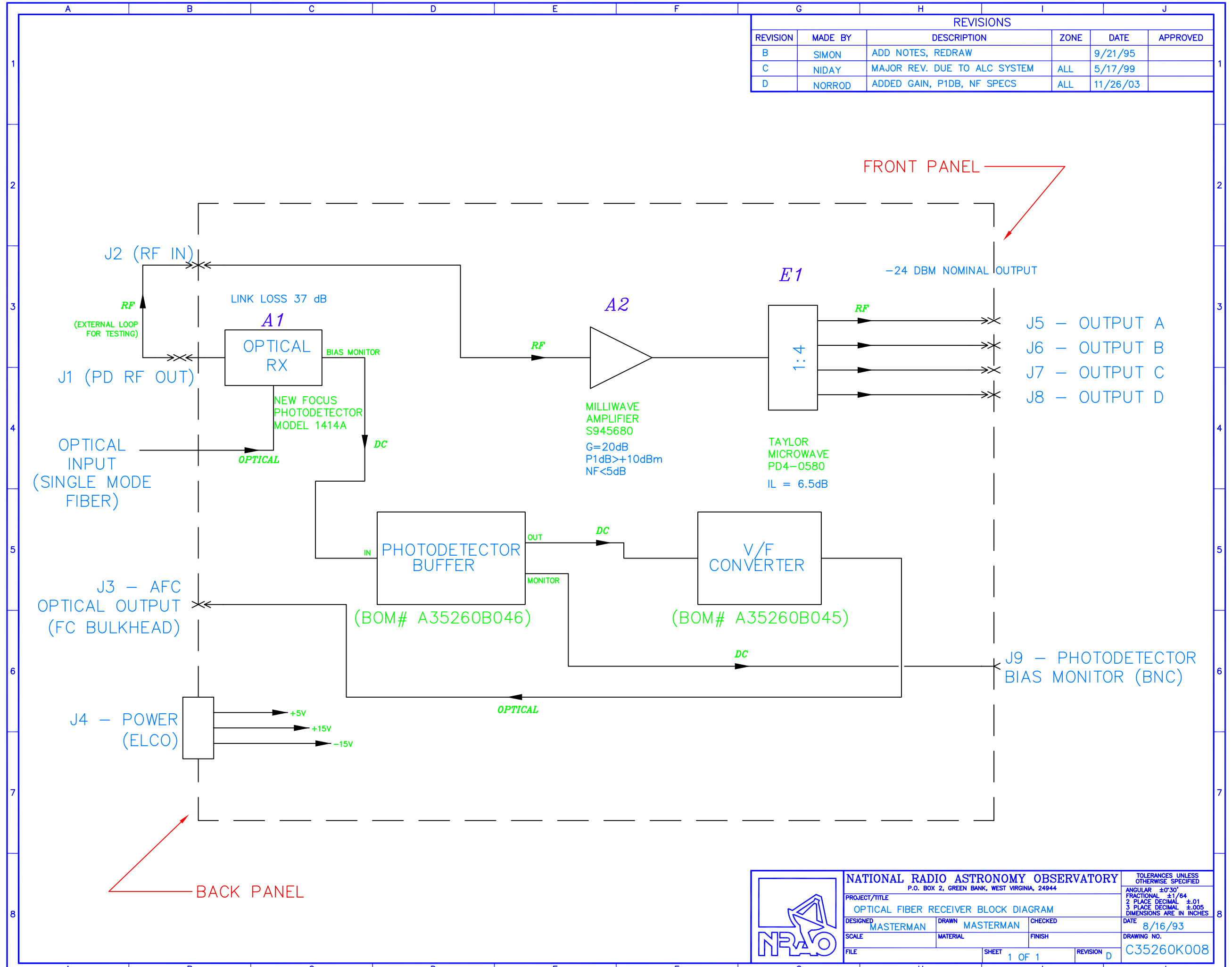
NATIONAL RADIO ASTRONOMY OBSERVATORY GREEN BANK, WV			
TITLE OPTICAL FIBER DRIVER MODULE BLOCK DIAGRAM			
PROJECT GBT			
DESIGN	NORROD	4/26/93	COMPUTER DRAWING ARCHIVE\GBTELEC\35260\K006
DRAWN	SIMON	4/26/93	MATERIAL
SHEET	1 OF 1		FINISH
SCALE	NTS		DWG. NO. C35260K006
			REVISION H

REVISIONS					
REVISION	MADE BY	DESCRIPTION	ZONE	DATE	APPROVED
0	NIDAY	INITIAL DRAWING	ALL	11/11/98	
A	NIDAY	ADDED DC OFFSET & TEMP COMP TO LASER MOD	C2-D2	22 MAY 2000	
B	NIDAY	ADDED BOM NUMBERS TO MODULES & ASSEM.	ALL	25 JAN 2001	



	<b>NATIONAL RADIO ASTRONOMY OBSERVATORY</b> P.O. BOX 2, GREEN BANK, WEST VIRGINIA, 24944			TOLERANCES UNLESS OTHERWISE SPECIFIED ANGULAR ±0'30" FRACTIONAL ±1/64 2 PLACE DECIMAL ±.01 3 PLACE DECIMAL ±.005 DIMENSIONS ARE IN INCHES
	PROJECT/TITLE: GBT OPTICAL IF SYSTEM BLOCK DIAGRAM			
	DESIGNED: WHITE SCALE: NTS	DRAWN: NIDAY MATERIAL: N/A	CHECKED: FINISH: N/A	DATE: 11 NOV 98 DRAWING NO.: C35260K021
	FILE: S\dira\...\35260\K021.DWG		SHEET: 1 OF 1	REVISION: A

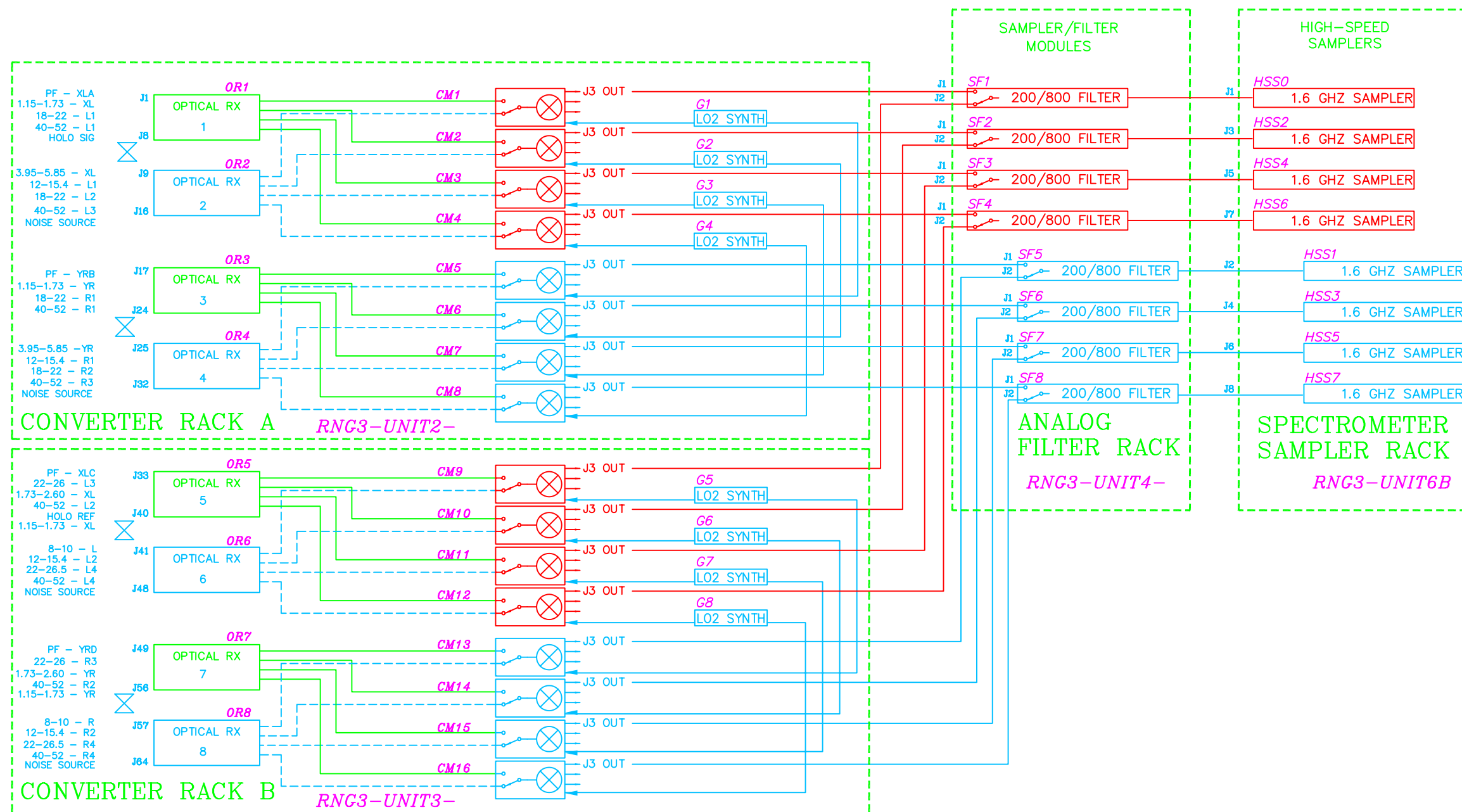
REVISIONS					
REVISION	MADE BY	DESCRIPTION	ZONE	DATE	APPROVED
B	SIMON	ADD NOTES, REDRAW		9/21/95	
C	NIDAY	MAJOR REV. DUE TO ALC SYSTEM	ALL	5/17/99	
D	NORROD	ADDED GAIN, P1DB, NF SPECS	ALL	11/26/03	



<b>NATIONAL RADIO ASTRONOMY OBSERVATORY</b> P.O. BOX 2, GREEN BANK, WEST VIRGINIA, 24944			TOLERANCES UNLESS OTHERWISE SPECIFIED ANGULAR ±0°30' FRACTIONAL ±1/64 2 PLACE DECIMAL ±.01 3 PLACE DECIMAL ±.005 DIMENSIONS ARE IN INCHES	
PROJECT/TITLE				
OPTICAL FIBER RECEIVER BLOCK DIAGRAM				
DESIGNED	DRAWN	CHECKED	DATE	
MASTERMAN	MASTERMAN		8/16/93	
SCALE	MATERIAL	FINISH	DRAWING NO.	
			C35260K008	
FILE	SHEET 1 OF 1	REVISION D		

# CONNECTIONS TO SPECTROMETER HIGH-SPEED SAMPLERS

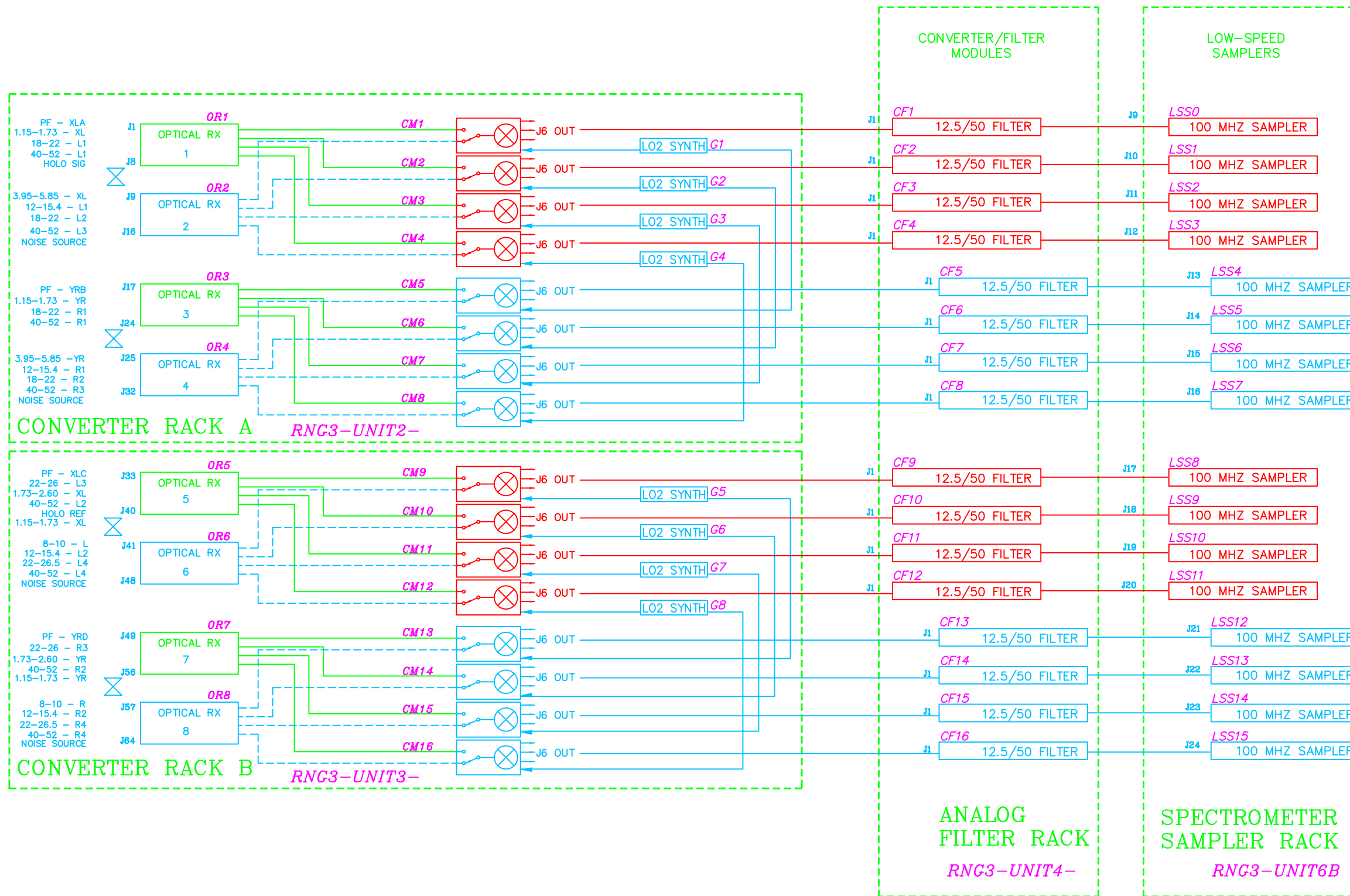
REVISIONS					
REVISION	MADE BY	DESCRIPTION	ZONE	DATE	APPROVED
D	SIMON	REVISE SAMPLER LABELS		8/15/96	
E	NORROD	UPDATE FE CHANNELS		10/26/00	
F	NORROD	ADD SHEET 2		9/11/02	
G	NORROD	EDIT LABELS, ADD SH 3		9/27/02	



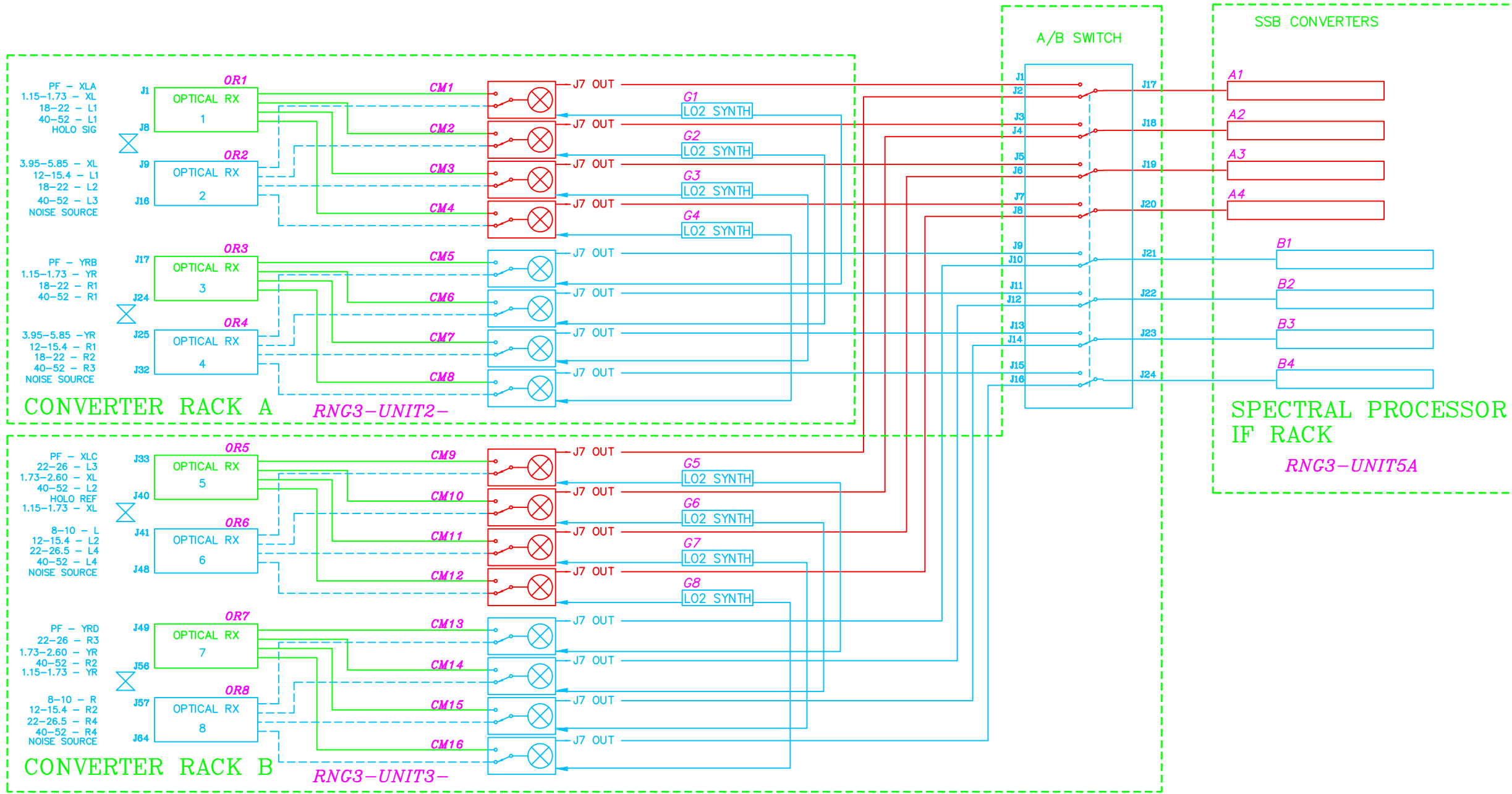
		<b>NATIONAL RADIO ASTRONOMY OBSERVATORY</b> P.O. BOX 2, GREEN BANK, WEST VIRGINIA, 24944			TOLERANCES UNLESS OTHERWISE SPECIFIED ANGULAR ±0.30° FRACTIONAL ±1/64 2 PLACE DECIMAL ±.01 3 PLACE DECIMAL ±.005 DIMENSIONS ARE IN INCHES
		PROJECT/TITLE EQUIPMENT ROOM IF DISTRIBUTION BLOCK DIAGRAM			
DESIGNED NORROD	DRAWN SIMON	CHECKED (blank)	DRAWING NO. D35260K009		
SCALE (blank)		MATERIAL (blank)	FINISH (blank)	SHEET 1 OF 3	REVISION G



# CONNECTIONS TO SPECTROMETER LOW-SPEED SAMPLERS

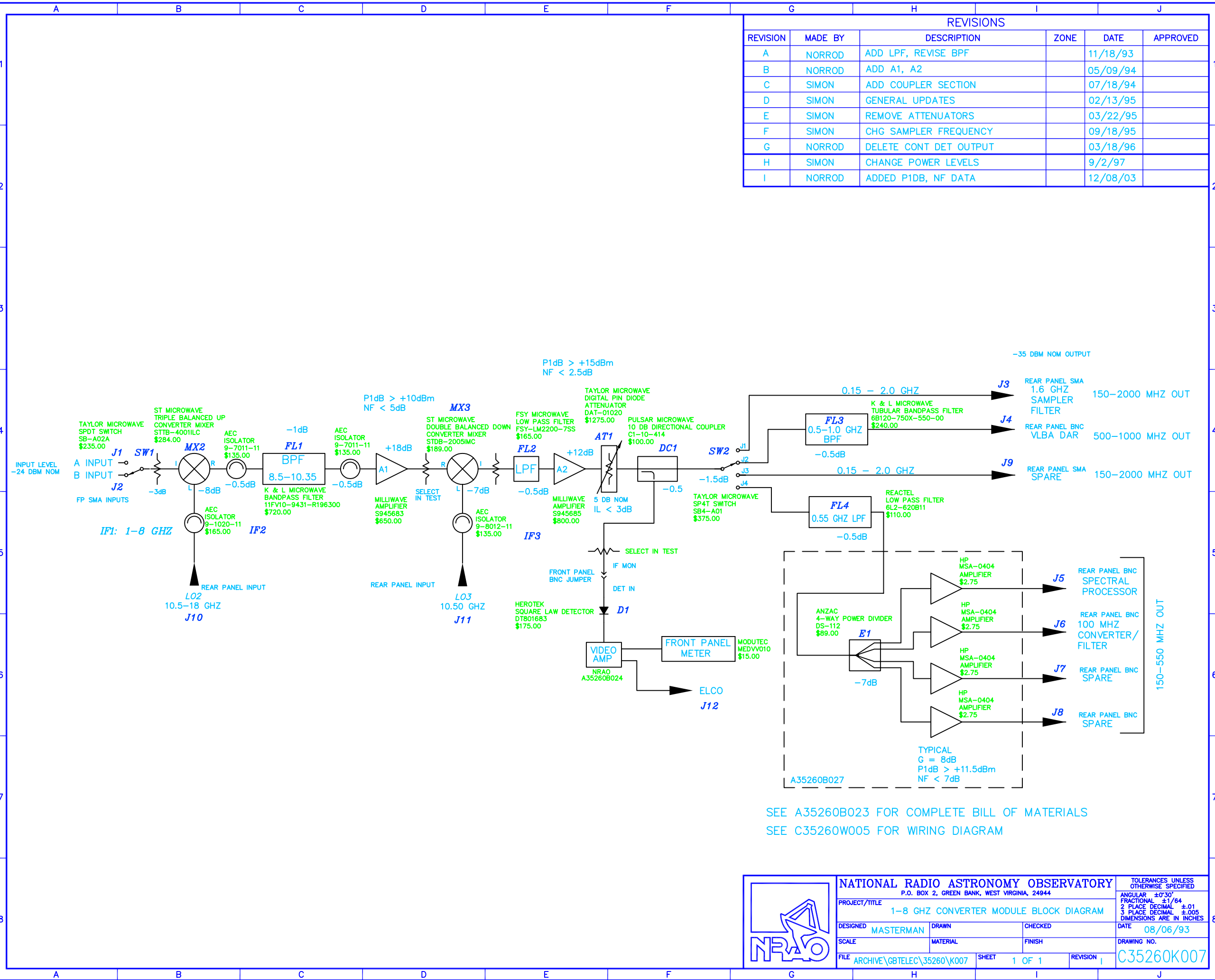


# CONNECTIONS TO SPECTRAL PROCESSOR



		<b>NATIONAL RADIO ASTRONOMY OBSERVATORY</b> P.O. BOX 2, GREEN BANK, WEST VIRGINIA, 24944				TOLERANCES UNLESS OTHERWISE SPECIFIED ANGULAR ±0.30° FRACTIONAL ±1/64 2 PLACE DECIMAL ±.01 3 PLACE DECIMAL ±.005 DIMENSIONS ARE IN INCHES		
		PROJECT/TITLE: EQUIPMENT ROOM IF DISTRIBUTION BLOCK DIAGRAM						
DESIGNED	NORROD	DRAWN	SIMON	CHECKED			DATE	11/12/93
SCALE		MATERIAL		FINISH			DRAWING NO.	D35260K009
FILE	ARCHIVE\GBTELEC\35260\K009C		SHEET	3 OF 3	REVISION	G		

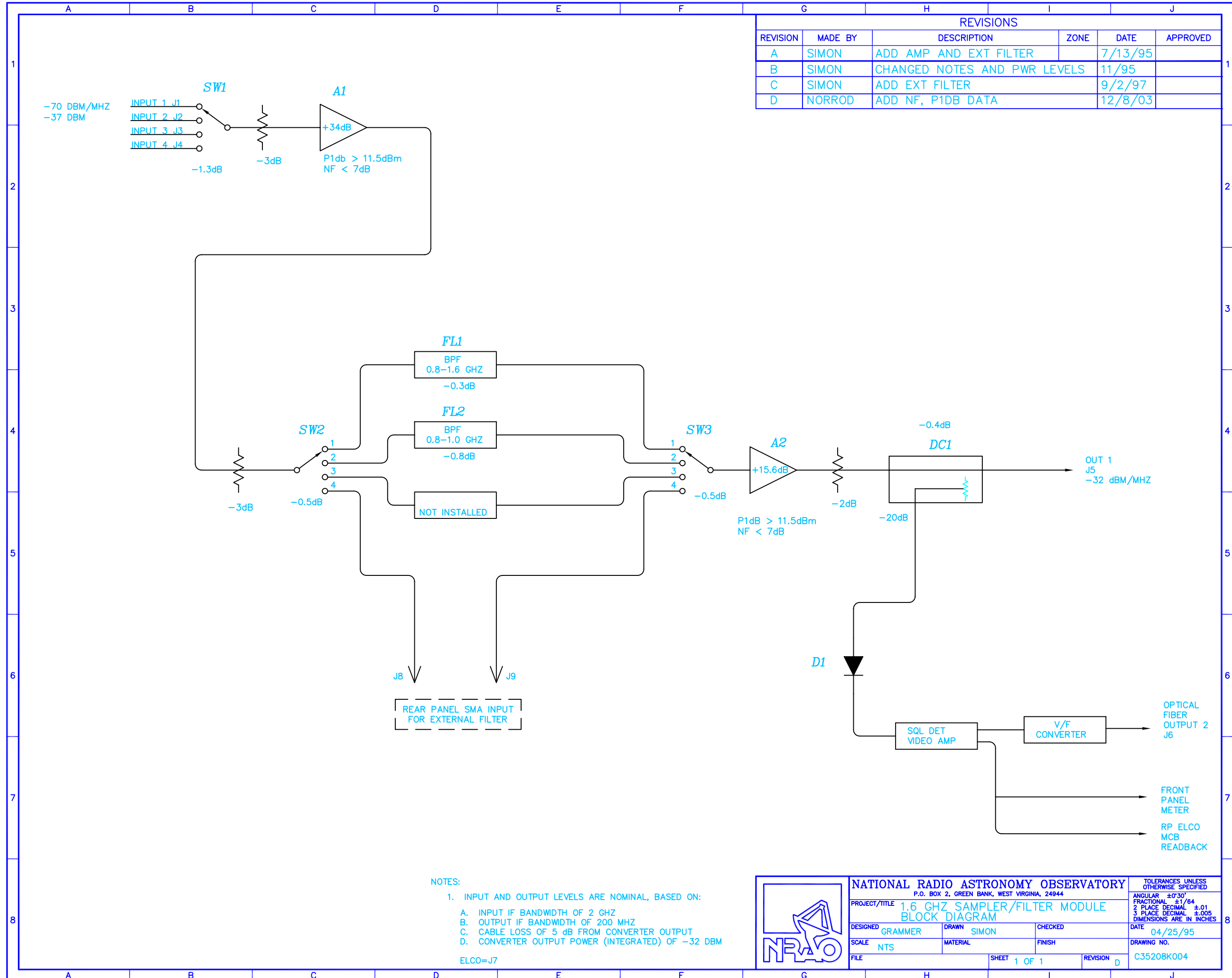
REVISIONS					
REVISION	MADE BY	DESCRIPTION	ZONE	DATE	APPROVED
A	NORROD	ADD LPF, REVISE BPF		11/18/93	
B	NORROD	ADD A1, A2		05/09/94	
C	SIMON	ADD COUPLER SECTION		07/18/94	
D	SIMON	GENERAL UPDATES		02/13/95	
E	SIMON	REMOVE ATTENUATORS		03/22/95	
F	SIMON	CHG SAMPLER FREQUENCY		09/18/95	
G	NORROD	DELETE CONT DET OUTPUT		03/18/96	
H	SIMON	CHANGE POWER LEVELS		9/2/97	
I	NORROD	ADDED P1DB, NF DATA		12/08/03	



SEE A35260B023 FOR COMPLETE BILL OF MATERIALS  
SEE C35260W005 FOR WIRING DIAGRAM

	<b>NATIONAL RADIO ASTRONOMY OBSERVATORY</b>			P.O. BOX 2, GREEN BANK, WEST VIRGINIA, 24944		TOLERANCES UNLESS OTHERWISE SPECIFIED		
	PROJECT/TITLE						ANGULAR ±0°30'	
	1-8 GHz CONVERTER MODULE BLOCK DIAGRAM						FRACTIONAL ±1/64	
	DESIGNED MASTERMAN						DATE 08/06/93	
SCALE		MATERIAL		FINISH		DRAWING NO.		
ARCHIVE\GBTELEC\35260\K007						C35260K007		
SHEET 1 OF 1			REVISION					


REVISIONS					
REVISION	MADE BY	DESCRIPTION	ZONE	DATE	APPROVED
A	SIMON	ADD AMP AND EXT FILTER		7/13/95	
B	SIMON	CHANGED NOTES AND PWR LEVELS		11/95	
C	SIMON	ADD EXT FILTER		9/2/97	
D	NORROD	ADD NF, P1DB DATA		12/8/03	



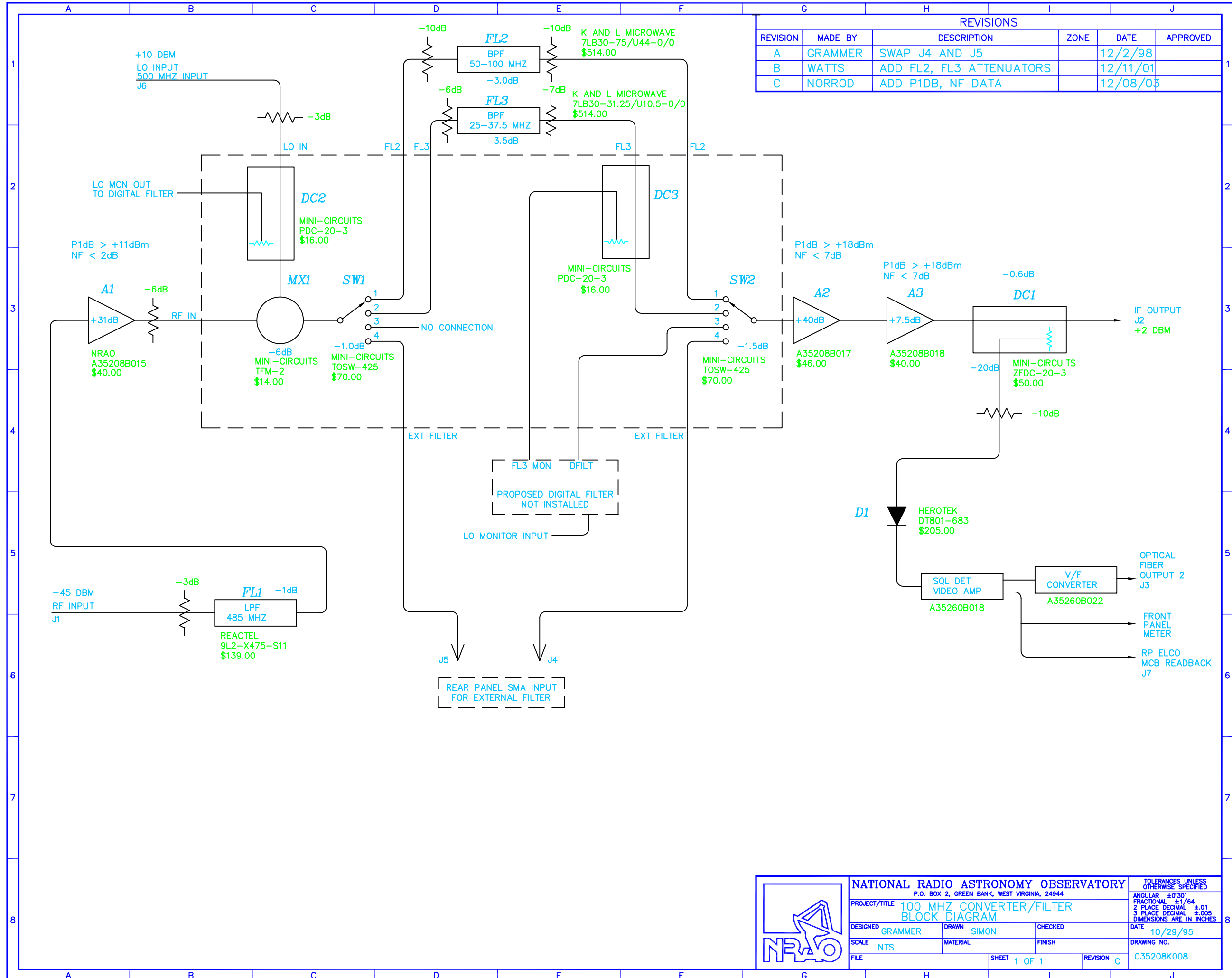
NOTES:

- INPUT AND OUTPUT LEVELS ARE NOMINAL, BASED ON:
  - A. INPUT IF BANDWIDTH OF 2 GHZ
  - B. OUTPUT IF BANDWIDTH OF 200 MHZ
  - C. CABLE LOSS OF 5 dB FROM CONVERTER OUTPUT
  - D. CONVERTER OUTPUT POWER (INTEGRATED) OF -32 DBM

ELCO=J7

		<b>NATIONAL RADIO ASTRONOMY OBSERVATORY</b> P.O. BOX 2, GREEN BANK, WEST VIRGINIA, 24944			TOLERANCES UNLESS OTHERWISE SPECIFIED ANGULAR ±0'30" FRACTIONAL ±1/64 2 PLACE DECIMAL ±.01 3 PLACE DECIMAL ±.005 DIMENSIONS ARE IN INCHES	
		PROJECT/TITLE <b>1.6 GHZ SAMPLER/FILTER MODULE BLOCK DIAGRAM</b>		DATE <b>04/25/95</b>		DRAWING NO. <b>C35208K004</b>
DESIGNED	GRAMMER	DRAWN	SIMON	CHECKED		
SCALE	NTS	MATERIAL		FINISH		
FILE		SHEET	1 OF 1	REVISION	D	

REVISIONS					
REVISION	MADE BY	DESCRIPTION	ZONE	DATE	APPROVED
A	GRAMMER	SWAP J4 AND J5		12/2/98	
B	WATTS	ADD FL2, FL3 ATTENUATORS		12/11/01	
C	NORROD	ADD P1DB, NF DATA		12/08/03	



<b>NATIONAL RADIO ASTRONOMY OBSERVATORY</b> P.O. BOX 2, GREEN BANK, WEST VIRGINIA, 24944		
PROJECT/TITLE: 100 MHz CONVERTER/FILTER BLOCK DIAGRAM		
DESIGNED: GRAMMER	DRAWN: SIMON	CHECKED:
SCALE: NTS	MATERIAL:	FINISH:
FILE:	SHEET 1 OF 1	REVISION C

TOLERANCES UNLESS OTHERWISE SPECIFIED	
ANGULAR	±0°30'
FRACTIONAL	±1/64
2 PLACE DECIMAL	±.01
3 PLACE DECIMAL	±.005
DIMENSIONS ARE IN INCHES	
DATE:	10/29/95
DRAWING NO.:	C35208K008