

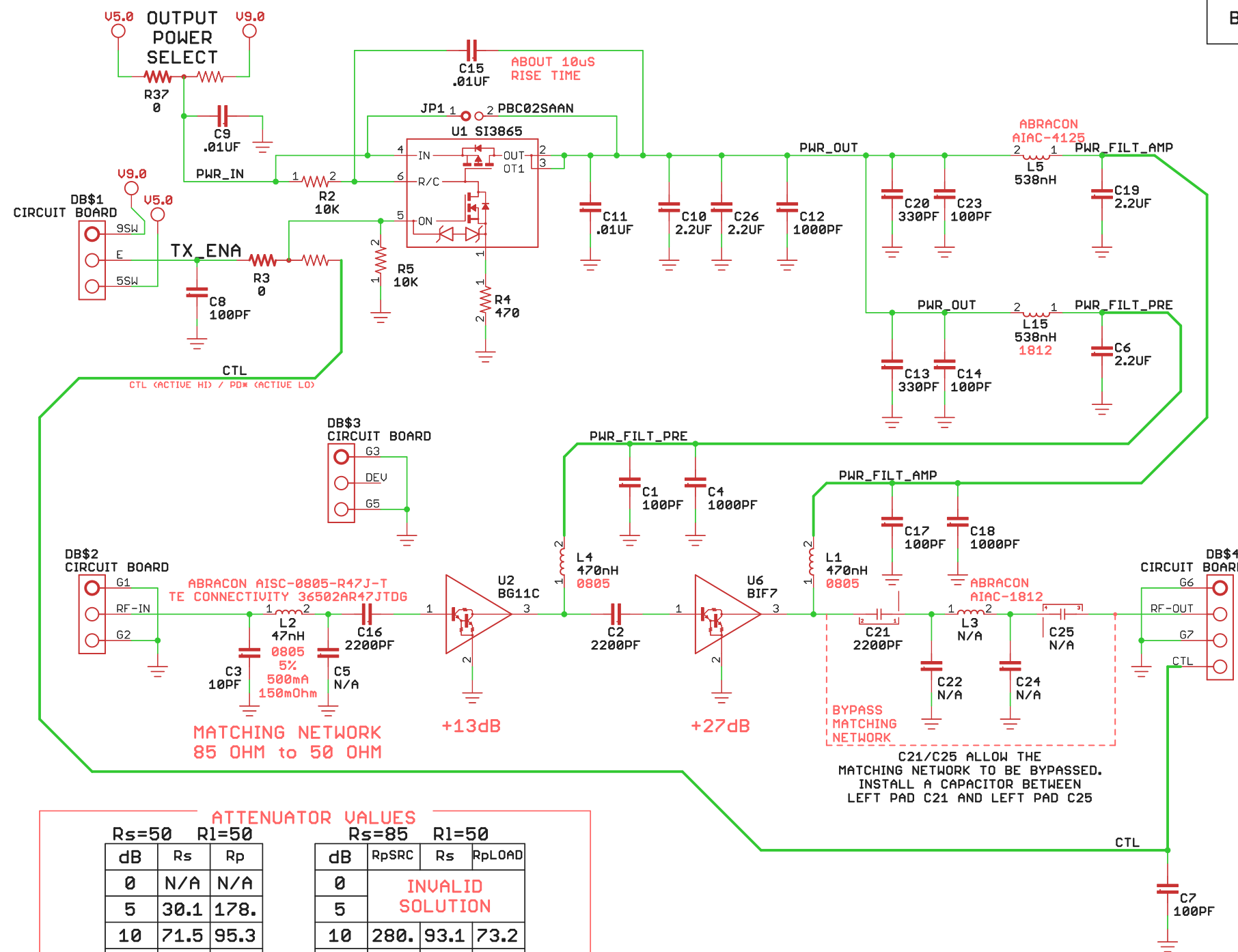
SOT89 RF AMPLIFIER (CHIRP SPECIFIC)

75 OHM

50 OHM

BGA3015	24
BGA3018	25

ADL5545	24.1	ADL5536	19.4	HMC636	13	→ BIF7	27.1	→ BG11C	20.8
	4.75		6.14		8.61		3.35		1.52
							100mW		
ADL5611	22.2	SBF-5089	19.5	HMC480	19	BIG8	27	BG15A	19
	6.99		N/A		3.56		4.03		2.27
									40mW
ADL5602	19.5	SKY65017	20	BG13B	13.3	BT05CV	21.5	BG18C	20.9
	6.15		3.03		1.83		4.16		1.89



INPUT	C3	L2	C5	MMIC AMP 50 OHM
20 Ohm		27nH	27PF	50+0.0j Ohm
40 Ohm		22nH	11PF	50+0.0j Ohm
50 Ohm		SHORT		50+0.0j Ohm
75 Ohm	10PF	39nH		50+0.0j Ohm
86 Ohm	10PF	47nH		50+0.0j Ohm
101 Ohm	11PF	56nH		50+0.0j Ohm
126 Ohm	11PF	68nH		50+0.0j Ohm
215 Ohm	9PF	100nH		50+0.0j Ohm
285 Ohm	8.5PF	120nH		50+0.0j Ohm
420 Ohm	7.2PF	150nH		50+0.0j Ohm

CATV (75 OHM) DEVICES:
BGA3015 BGA3018
8V SUPPLY
(HIGHER OUTPUT ???)

INPUT	C3	L2	C5	MMIC AMP 50 OHM
20 Ohm				75+0.0j Ohm
40 Ohm				75+0.0j Ohm
50 Ohm		39nH	10PF	75+0.0j Ohm
75 Ohm		SHORT		75+0.0j Ohm
85 Ohm	4.7PF	30nH		75+0.0j Ohm

50 Ohm MMIC	C22	L3	C24	ANTENNA
20 Ohm				50+0.0j Ohm
40 Ohm				50+0.0j Ohm
50 Ohm		SHORT		50+0.0j Ohm
75 Ohm	10PF	39nH		50+0.0j Ohm

ATTENUATOR VALUES

dB	Rs=50 Rl=50		Rs=85 Rl=50			
	Rs	Rp	RpSRC	Rs	RpLOAD	
0	N/A	N/A	INVALID SOLUTION			
5	30.1	178.				
10	71.5	95.3				
15	137	71.5				
20	249.	60.4				
25	442.	56.2				
30	806.	53.6	30	93.1	1.02K	52.3

SI5351 is 85 Ohm

<https://www.omnicalculator.com/other/pi-attenuator>

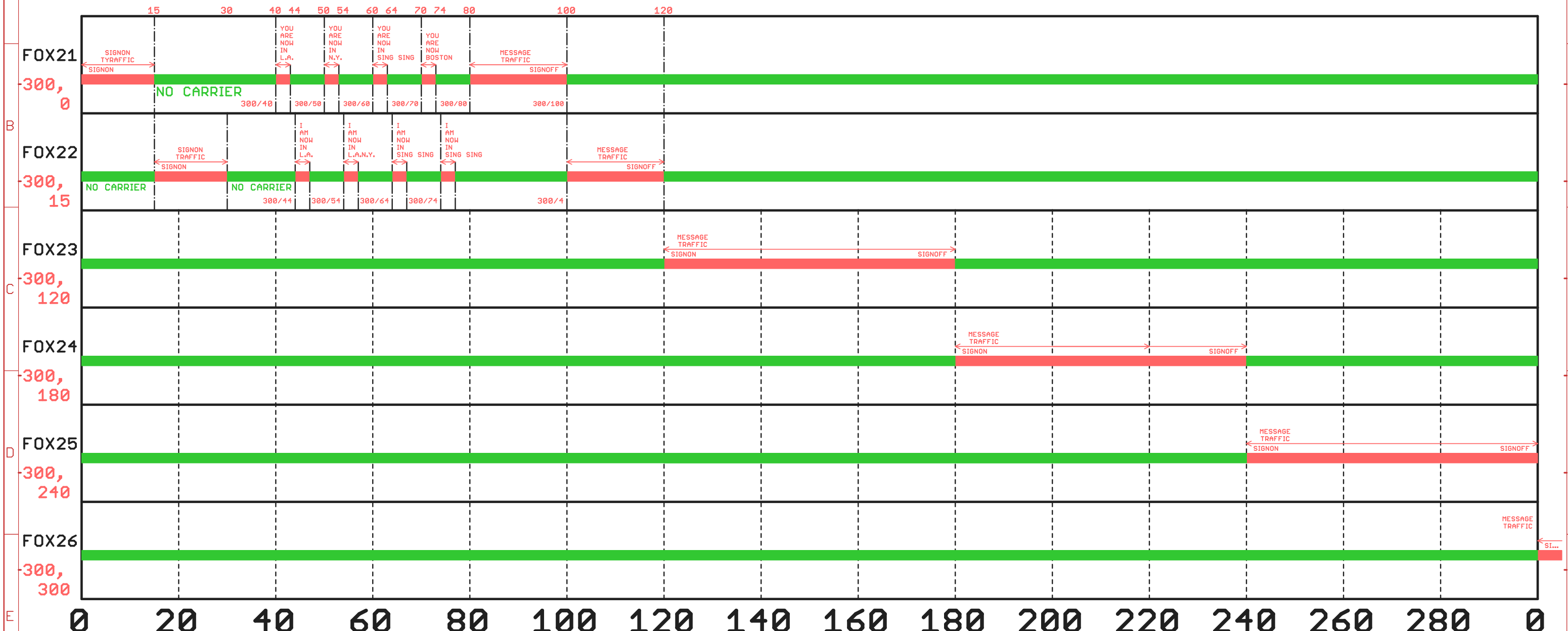
<https://www.analog.com/en/resources/interactive-design-tools/rf-impedance-matching-calculator.html>
<https://www.analog.com/en/design-center/interactive-design-tools/rf-impedance-matching-calculator.html>
<https://markimicrowave.com/technical-resources/tools/lc-filter-design-tool/>

THIS BOARD CONTAINS STATIC SENSITIVE DEVICES. HANDLE ONLY IN STATIC SAFE ENVIRONMENT

TOP_FULL	BOT_COMPACT	BOARD-ID		
DRAWING FRAME SHOWN ON CIRCUIT BOARD				
Drawn		Date		
KC0JFQ		2019-05-13		
Designed		Date		
KC0JFQ		2019-05-13		
TITLE: SOT89 RF AMP (HI PWR)		A102_73181_71		
CAGE	Series	Number	2 Layers	Rev
20354	102	B 73181		71
Date: 5 Feb 2025 17:03:33		5 Feb 2025 17:04:03		Sheet: 1/3

The University of Iowa
Department of Physics & Astronomy
Iowa City, IA, USA

5 (or 6) MINUTE CYCLE (300S./360S.)

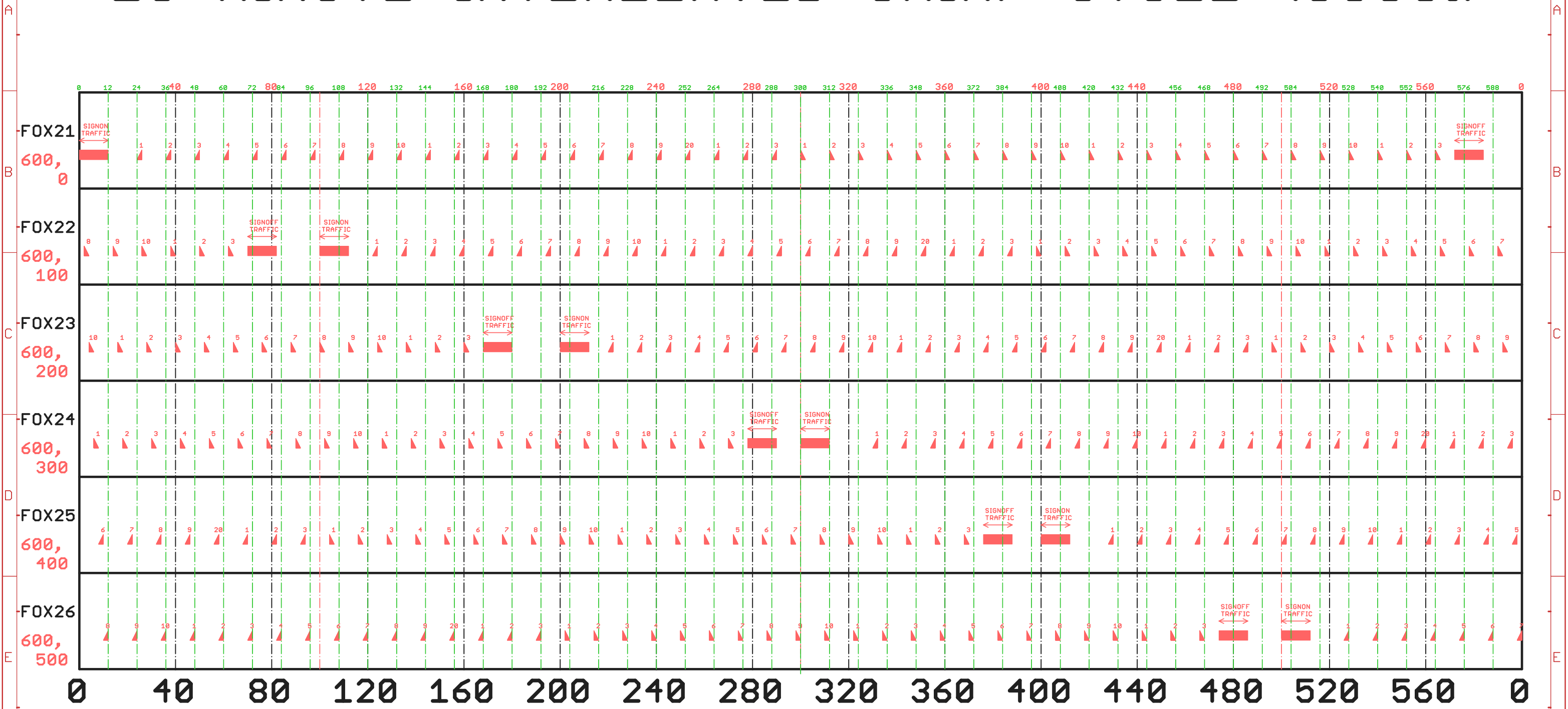


WE CALLOUT A 120 SECOND CYCLE IN THE SYNCHRONOUS WAIT COMMAND AS THAT COVERS THE TWO STATIONS PARTICIPATING IN THE "CONVERSATION"

IF NOT STARTING AT THE BEGINING, WE WOULD NEED TO ADJUST THE OFFSETS AS NEEDED TO OBTAIN THE DESIRED ALIGNMENT

Drawn	KC0JFQ	Date	2019-05-13	The University of Iowa Department of Physics & Astronomy Iowa City, IA, USA				
Designed	KC0JFQ	Date	2019-05-13					
TITLE: SOT89 RF AMP (HI PWR)				A102_73181_71				
CAGE	2D354	Series	FOX TRANSMITTER 102	Number	B 73181	2 Layers	Rev	71
Date: 5 Feb 2025 17:03:33		5 Feb 2025 17:04:03		Sheet: 2/3				

10 MINUTE INTERLEAVED CHIRP CYCLE (600S.)



Drawn	Date
KC0JFQ	2019-05-13
Designed	Date
KC0JFQ	2019-05-13

The University of Iowa Department of Physics & Astronomy Iowa City, IA, USA	
TITLE: SOT89 RF AMP (HI PWR)	A102_73181_71

CAGE	Series	B	Number	2 Layers	Rev
2D354	102		73181		71
Date: 5 Feb 2025 17:03:33		5 Feb 2025 17:04:03		Sheet: 3/3	