

ALL BAND LINEAR AMPLIFIER

REC

OPER

POWER

On

DELAY
SLOW

BAND

40

20

80

15

160

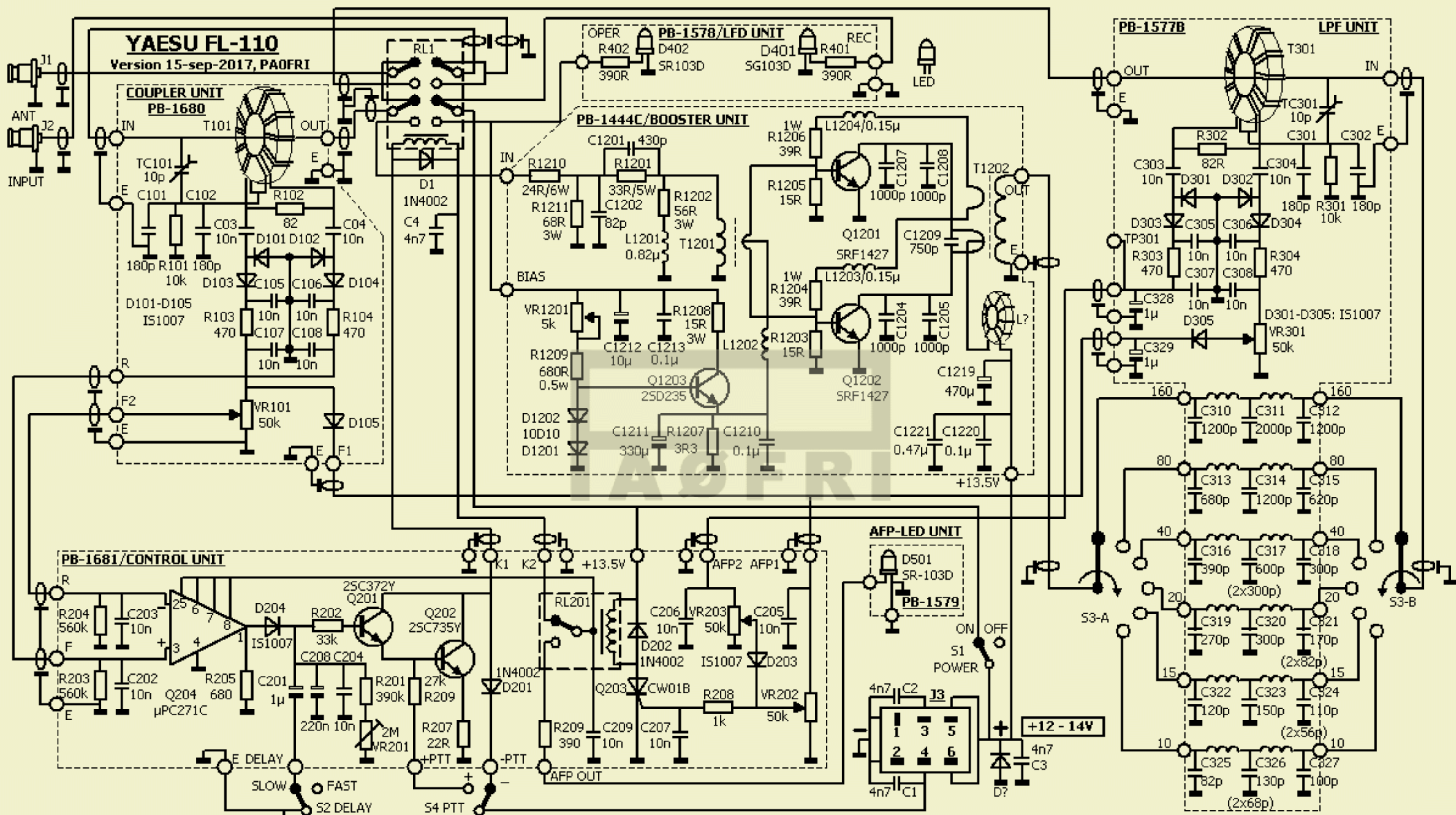
10

OFF

FAST

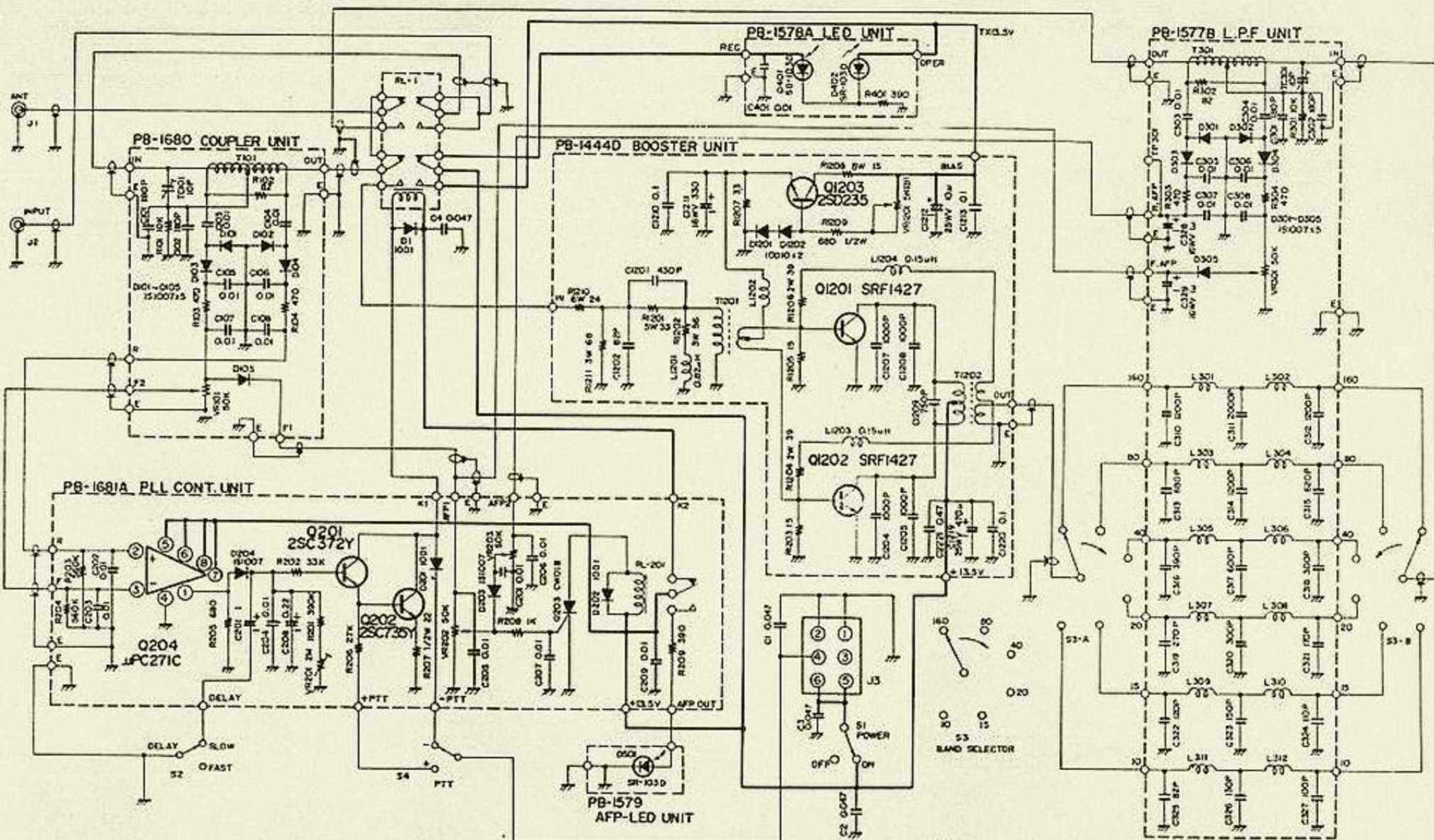
AFP

YAESU FL-110



1. ALL RESISTORS IN $\pm 1/4W \pm 10\%$
UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS IN μF UNLESS
OTHERWISE NOTED.

FL-110
CIRCUIT DIAGRAM



203, 204	$\frac{1}{4}$ W	560K Ω	L	INDUCTOR	
			301, 320	160m LOWPASS	$\approx$ 220148A
	CARBON COMPOSITION		303, 304	80m LOWPASS	$\approx$ 220147A
207	$\frac{1}{2}$ W	22 Ω	305, 306	40m LOWPASS	$\approx$ 220214
			307	20m LOWPASS(A)	$\approx$ 220254
VR	POTENTIOMETER		308	20m LOWPASS(B)	$\approx$ 220215A
202, 203	EVL-VOAA	00B54 50K Ω B	309	15m LOWPASS(A)	$\approx$ 220216
201	EVL-VOAA	00B26 2M Ω B	310	15m LOWPASS(B)	$\approx$ 220217
			311, 312	10m LOWPASS	$\approx$ 220218
C	CAPACITOR				
	CERAMIC DISC				
202-207, 209, 210	50WV	0.01 μ F			
	TANTALUM				
208	16WV	0.22 μ F		LED BOARD	
201	16WV	1 μ F	PB	PRINTED CIRCUIT BOARD	
			1578A	REC.OPER INDICATOR	
RL	RELAY		1579	AFP INDICATOR	
201	G2E				
			D	LED	
			401	SG-103D	
			402, 501	SR-103D	
			R	RESISTOR	
				CARBON FILM	
PB	PRINTED CIRCUIT BOARD		401	$\frac{1}{4}$ W	390 Ω
1577B					
			C	CAPACITOR	
D	DIODE			CERAMIC DISC	
301-305	Ge(GB)	1S1007(1N270)	401	50WV	0.047 μ F
R	RESISTOR			ACCESSORIES	
	CARBON FILM			COAXIAL PLUG JPL-259	2
302	$\frac{1}{4}$ W	82 Ω		DC POWER CORD #240026	1
303, 304	$\frac{1}{4}$ W	470 Ω		POWER PLUG QMS-6FK	(1)
301	$\frac{1}{4}$ W	10K Ω		FUSE HOLDER SN-1102	(1)
				FUSE 30A	(1)
VR	POTENTIOMETER		FUSE	30A	1
301	EVL-VOAA	00B54 50K Ω B			
C	CAPACITOR				
	DIPPED MICA				
301, 302	50WV	180PF			
325	500WV	82PF			
327	500WV	100PF			
324	500WV	110PF(56PF $\times$ 2)			
322	500WV	120PF			
326	500WV	130PF(68PF $\times$ 2)			
323	500WV	150PF			
321	500WV	170PF(82PF $\times$ 2)			
319	500WV	270PF			
318, 320	500WV	300PF			
316	500WV	390PF			
317	500WV	600PF(300PF $\times$ 2)			
315	500WV	620PF			
313	500WV	680PF			
310, 312, 314	500WV	1200PF			
311	500WV	2000PF			
	CERAMIC DISC				
303-308	50WV	0.01 μ F			
	ELECTROLYTIC				
328, 329	16WV	1 μ F			
TC	TRIMMER CAPACITOR				
301	ECV-12W 10 $\times$ 32	10PF			
T	TRANSFORMER				
301	CM COUPLER	# 220027			

PARTS LIST

MAIN CHASSIS				1219	25WV	470 μ F
D	DIODE					
1	Si	10D1(1N4002)		T	TRANSFORMER	
				1201	INPUT	# 220025
C	CAPACITOR			1201	OUTPUT	# 220026
CERAMIC DISC						
1, 2, 3, 4	50WV	0.047 μ F		L	INDUCTOR	
				1201	RF CHOKE	# 220034
RL	RELAY			1202	RF CHOKE	# 220041
1	AP3241	HC4-DC12V		1203, 1204	RF CHOKE	# 220035
RLS	RELAY SOCRET					
1	AP384455	HC4-SS				
S	SWITCH					
1	POWER	WD-9216		COUPLER UNIT		
2	DELAY	WD-9216		PB	PRINTED CIRCUIT BOARD	
3	BAND	2-2-6(#003505 #003506)		1680	(A~Z)	
4	PTT	SS-F-22-08				
				D	DIODE	
J	RECEPTACLE			101~105	Ge(GB)	1S1007(1N270)
1	ANT	JSO-239				
2	INPUT	JSO-239		R	RESISTOR	
3	POWER	QMS-AB6M		CARBON FILM		
				102	$\frac{1}{4}$ W	82 Ω
				103, 104	$\frac{1}{4}$ W	470 Ω
				101	$\frac{1}{4}$ W	10K Ω
				VR	POTENTIOMETER	
BOOSTER UNIT				101	EVL-VOAA 00B54	50K Ω B
PB	PRINTED CIRCUIT BOARD					
1444D				C	CAPACITOR	
				DIPPED MICA		
Q	TRANSISTOR			101, 102	50WV	180PF
1201, 1202	SRF1427					
1203	2SD313E(2SD235)			CERAMIC DISC		
				103~108	50WV	0.01 μ F
D	DIODE			TC	TRIMMER CAPACITOR	
1201, 1202	Si	10D10		101	ECV-12W 10 $\times$ 40	10PF
R	RESISTOR			T	TRANSFORMER	
CARBON COMPOSITION				101	CM COUPLER	# 220027
1207	$\frac{1}{2}$ W	3.3 Ω				
1203 1205	$\frac{1}{2}$ W	15 Ω				
1209	$\frac{1}{2}$ W	680 Ω				
METALIC FILM						
1204, 1209	1W	39 Ω				
1208	3W	15 Ω		CONTROL UNIT		
1202	3W	56 Ω		PB	PRINTED CIRCUIT BOARD	
1211	3W	68 Ω		1681	(A~Z)	
1201	5W	33 Ω				
1210	6W	24 Ω		Q	IC, TRANSISTOR & THYRISTOR	
				204	IC	μ PC 271C
VR	POTENTIOMETER			201	Tr	2SC 372Y
1201	V18K3-2	5K Ω B		202		2SC 735Y
				203	Thyristor	CW 01B
C	CAPACITOR					
DIPPED MICA				D	DIODE	
	500WV	82PF		203, 204	Ge(GB)	1S1007(1N270)
1201	500WV	430PF		201, 202	Si	10D1(1N4002)
1209	500WV	750PF				
1204, 1205, 1207, 1208	500WV	1000PF		R	RESISTOR	
				CARBON FILM		
CERAMIC DISC				209	$\frac{1}{4}$ W	390 Ω
1210, 1213, 1220	50WV	0.1 μ F		205	$\frac{1}{4}$ W	680 Ω
				208	$\frac{1}{4}$ W	1K Ω
ELECTROLYTIC				206	$\frac{1}{4}$ W	27K Ω
1211	16WV	330 μ F		202	$\frac{1}{4}$ W	33K Ω
1212	25WV	10 μ F		201	$\frac{1}{4}$ W	390K Ω

The FL-110 can be keyed either manually or automatically.

For manual operation, use the accessory relay output of the transceiver in use as illustrated in Fig. 1. With this interconnection, the FL-110 is keyed by push-to-talk operation of the transceiver.

Carefully examine the relay function of the transceiver.

The switch marked PTT on the rear panel should be set to (-) for the transceiver which has the accessory relay contact close to ground in transmit (FT-101 series). It should be set to (+) position for the transceiver which has the relay contact close to a positive voltage in transmit (FT-301 series).

Use a coax cable for the connection between the transceiver and the FL-110 linear amplifier.

CAUTION

THE DRIVING POWER SHOULD NOT EXCEED 15 WATTS UNDER ANY CIRCUMSTANCES.

DO NOT KEY THE FL-110 WITHOUT THE PROPER ANTENNA BEING CONNECTED.

THE COLLECTOR OF THE PA TRANSISTOR IS CONNECTED TO THE POWER SOURCE AND DRAWS 5 MILLIAMPS WHEN THE POWER SWITCH IS AT "OFF" POSITION. THEREFORE, IT IS RECOMMENDED TO DISCONNECT POWER CABLE FROM THE BATTERY WHEN THE FL-110 IS NOT BEING USED FOR SEVERAL MONTHS.

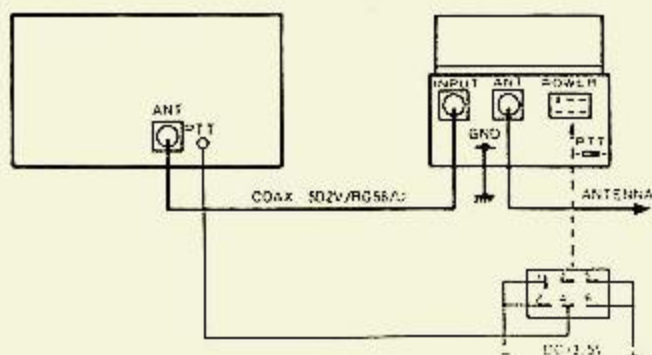


Figure 1

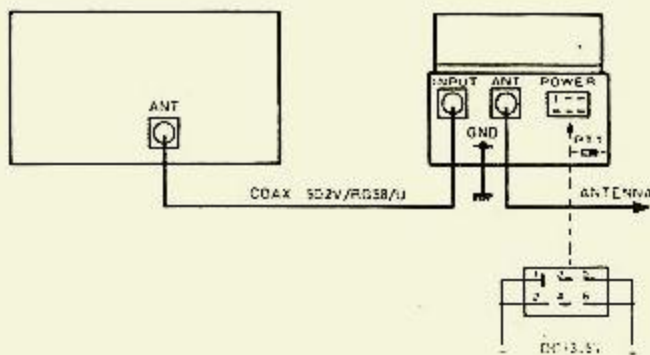


Figure 2

TECHNICAL BULLETIN
FT-7/FL-110

For interconnection of the FT-7 and FL-110 solid-state amplifier unit, please refer to the following.

- 1) Connect the antenna to the FL-110 antenna jack.
- 2) Connect a piece of 50 ohm coaxial cable between the FT-7 antenna connector and the FL-110 INPUT connector.
- 3) Connect a wire from pin 4 of the FT-7 power plug to pin 4 of the FL-110 power plug. This wire is for PTT operation of the FL-110.
- 4) When hooking up the power cords, please be careful to make the proper connections to the proper equipment. The FL-110 power cord is orange and black, while the FT-7 power cord is red and black. The warranty does not cover damage caused by hooking up the wrong power cord.

