OPERATION AND MAINTENANCE
MAINTENANCE SUPPORT
1XN FREQUENCY DIVERSITY
DR6/11-135A AND 135EC
EQUIPMENT IDENTIFICATION
RADIO

1. GENERAL

1.001 This addendum supplements AT&T 421-101-014, Issue 3.

1.002 This addendum replaces Pages 29 and 30.

2. CHANGES TO PRACTICE

2.001 Remove from the practice the pages numbered the same as those attached to this sheet.

2.002 Insert the attached pages in the appropriate numerical order.

Attachments:

Page 29, dated June 1990—Revised
Page 30, dated June 1990—Revised

OPERATION AND MAINTENANCE
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DR 6/11-135A AND 135EC
EQUIPMENT IDENTIFICATION
RADIO

This section contains information to help the technician identify equipment contained in the DR 6-30-135 and DR 11-40-135 Digital Radios. Tables A and B list the unit code identifications for the 6-GHz frequency plan, and Tables C and D list the unit code identifications for the 11-GHz frequency plan. The following line drawings are provided:

- Figure 1—DR 6-30/DR 11-40-135 Digital Radio
- Figure 2—DR 6-30/DR 11-40-135 Radio Labeling
- Figure 3—DR 6-30/DR 11-40-135 Radio Applications
- Figure 4—Radio Transmitter With TWT Option (6 GHz Shown)
- Figure 5—Radio Transmitter With Solid-State Amplifier Option
- Figure 6—Part of Installer Interface Panel
- Figure 7—6-GHz Transmitter Waveguide Assembly
- Figure 8—6-GHz TWT Transmitter Amplifier Assembly With 4389A ALC Network
- Figure 9—6-GHz TWT Transmitter Amplifier Assembly With 4411B ALC Network
- Figure 10—6-GHz Solid-State Transmitter Amplifier Assembly
- Figure 11—11-GHz Transmitter Waveguide Assembly
- Figure 12—11-GHz TWT Transmitter Amplifier Assembly With 4388A ALC Network
- Figure 13—11-GHz TWT Transmitter Amplifier Assembly With 4411C ALC Network
- Figure 14—Transmitter Shelf (6 GHz Shown)
- Figure 15—Radio Receiver (6 GHz Shown)
- Figure 16—Radio Receiver With Space Diversity Option (6 GHz Shown)
- Figure 17—6-GHz Receiver Waveguide Assembly
- Figure 18—11-GHz Regular Receiver Waveguide Assembly
- Figure 19—11-GHz Space Diversity Receiver Waveguide Assembly

- Figure 20—Receiver Shelf (6 GHz Shown)
- Figure 21—Receiver Shelf With Space Diversity Option (6 GHz Shown).

This practice is reissued to include 4411( ) ALC Network information (Fig. 9 and 13). The practice is used in binders 421-101-001 and 421-101-060.

ISSUING ORGANIZATION

Published by the AT&T Documentation Management Organization.

TABLE A
6 GHZ REGULAR FREQUENCY PLAN

RADIO CHANNEL		1502() FILTER CODE	1503() FILTER CODE	TRANSMITTER UP CONV AND MWV GEN OR RECEIVER DOWN CONV AND MWV GEN	
NUMBER	FREQUENCY (MHz)			CODE	GEN MON JACK FREQUENCY (MHz)
11T	5945.20	B	CB	B	6015.20
12T	5974.85	D	CD	D	6044.85
13T	6004.50	F	CF	F	6074.50
14T	6034.15	H	CH	H	6104.15
15T	6063.80	K	CK	K	5993.80
16T	6093.45	M	CM	M	6023.45
17T	6123.10	P	CP	P	6053.10
18T	6152.75	S	CS	S	6082.75
21T	6197.24	AB	DB	AB	6267.24
22T	6226.89	AD	DD	AD	6296.89
23T	6256.54	AF	DF	AF	6326.54
24T	6286.19	AH	DH	AH	6356.19
25T	6315.84	AK	DK	AK	6245.84
26T	6345.49	AM	DM	AM	6275.49
27T	6375.14	AP	DP	AP	6305.14
28T	6404.79	AS	DS	AS	6334.79

TABLE B
6 GHZ STAGGERED FREQUENCY PLAN

RADIO CHANNEL		1502() FILTER CODE	1503() FILTER CODE	TRANSMITTER UP CONV AND MWV GEN OR RECEIVER DOWN CONV AND MWV GEN	
NUMBER	FREQUENCY (MHz)			CODE	GEN MON JACK FREQUENCY (MHz)
11S	5960.025	C	CC	C	6030.025
12S	5989.675	E	CE	E	6059.675
13S	6019.325	G	CG	G	6089.325
14S	6048.975	J	CJ	J	5978.975
15S	6078.625	L	CL	L	6008.625
16S	6108.275	N	CN	N	6038.275
17S	6137.925	R	CR	R	6067.925
18S	6167.575	T	CT	T	6097.575
20S	6182.415	AA	DA	AA	6252.415
21S	6212.065	AC	DC	AC	6282.065
22S	6241.715	AE	DE	AE	6311.715
23S	6271.365	AG	DG	AG	6341.365
24S	6301.015	AJ	DJ	AJ	6231.015
25S	6330.665	AL	DL	AL	6260.665
26S	6360.315	AN	DN	AN	6290.315
27S	6389.965	AR	DR	AR	6319.965

TABLE C
11 GHZ REGULAR FREQUENCY PLAN

RADIO CHANNEL			TRANSMITTER UP CONV AND MWV GEN OR RECEIVER DOWN CONV AND MWV GEN	
NUMBER	FREQUENCY (GHz)	1533(), 1534(), or 1535() FILTER CODE	CODE	GEN MON JACK FREQUENCY (GHz)
1P	10.755	PB	PB	10.685
10P	10.795	PC	PC	10.725
11P	10.835	PD	PD	10.765
6P	10.875	PE	PE	10.805
7P	10.915	PF	PF	10.845
2P	10.955	PG	PG	10.885
3P	10.995	PH	PH	10.925
12P	11.035	PJ	PJ	10.965
9P	11.075	PK	PK	11.005
8P	11.115	PL	PL	11.045
5P	11.155	PM	PM	11.085
9J	11.245	JA	JA	11.315
12J	11.285	JB	JB	11.355
5J	11.325	JC	JC	11.395
8J	11.365	JD	JD	11.295
1J	11.405	JE	JE	11.335
4J	11.445	JF	JF	11.375
11J	11.485	JG	JG	11.415
10J	11.525	JH	JH	11.455
7J	11.565	JJ	JJ	11.495
6J	11.605	JK	JK	11.535
3J	11.645	JL	JL	11.575

TABLE D
11 GHZ ALTERNATE FREQUENCY PLAN

RADIO CHANNEL			TRANSMITTER UP CONV AND MWV GEN OR RECEIVER DOWN CONV AND MWV GEN	
NUMBER	FREQUENCY (GHz)	1533(), 1534(), or 1535() FILTER CODE	CODE	GEN MON JACK FREQUENCY (GHz)
4E	10.735	EA	EA	10.665
1E	10.775	EB	EB	10.705
10E	10.815	EC	EC	10.745
11E	10.855	ED	ED	10.785
6E	10.895	EE	EE	10.825
7E	10.935	EF	EF	10.865
2E	10.975	EG	EG	10.905
3E	11.015	EH	EH	10.945
12E	11.055	EJ	EJ	10.985
9E	11.095	EK	EK	11.025
8E	11.135	EL	EL	11.065
12D	11.265	DB	DB	11.335
5D	11.305	DC	DC	11.375
8D	11.345	DD	DD	11.415
1D	11.385	DE	DE	11.315
4D	11.425	DF	DF	11.355
11D	11.465	DG	DG	11.395
10D	11.505	DH	DH	11.435
7D	11.545	DJ	DJ	11.475
6D	11.585	DK	DK	11.515
3D	11.625	DL	DL	11.555
2D	11.665	DM	DM	11.595

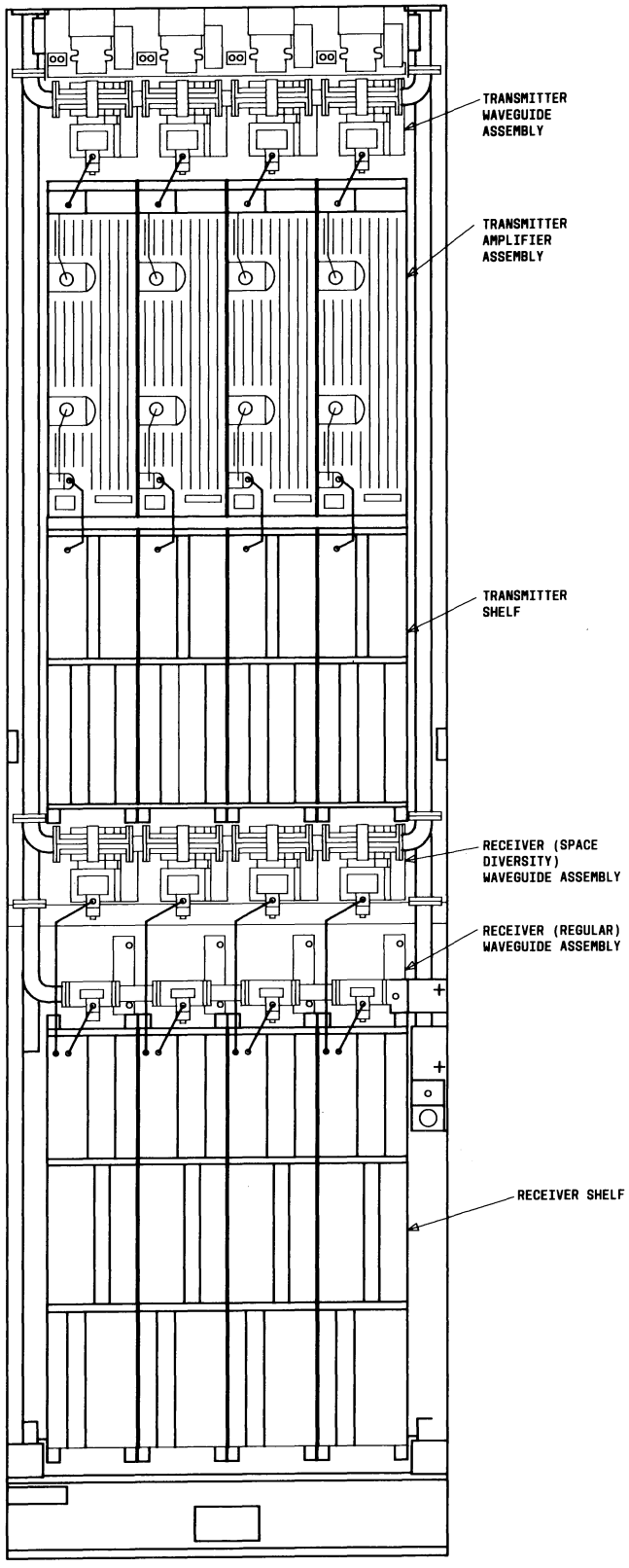


Fig. 1—DR 6-30/DR 11-40-135 Digital Radio

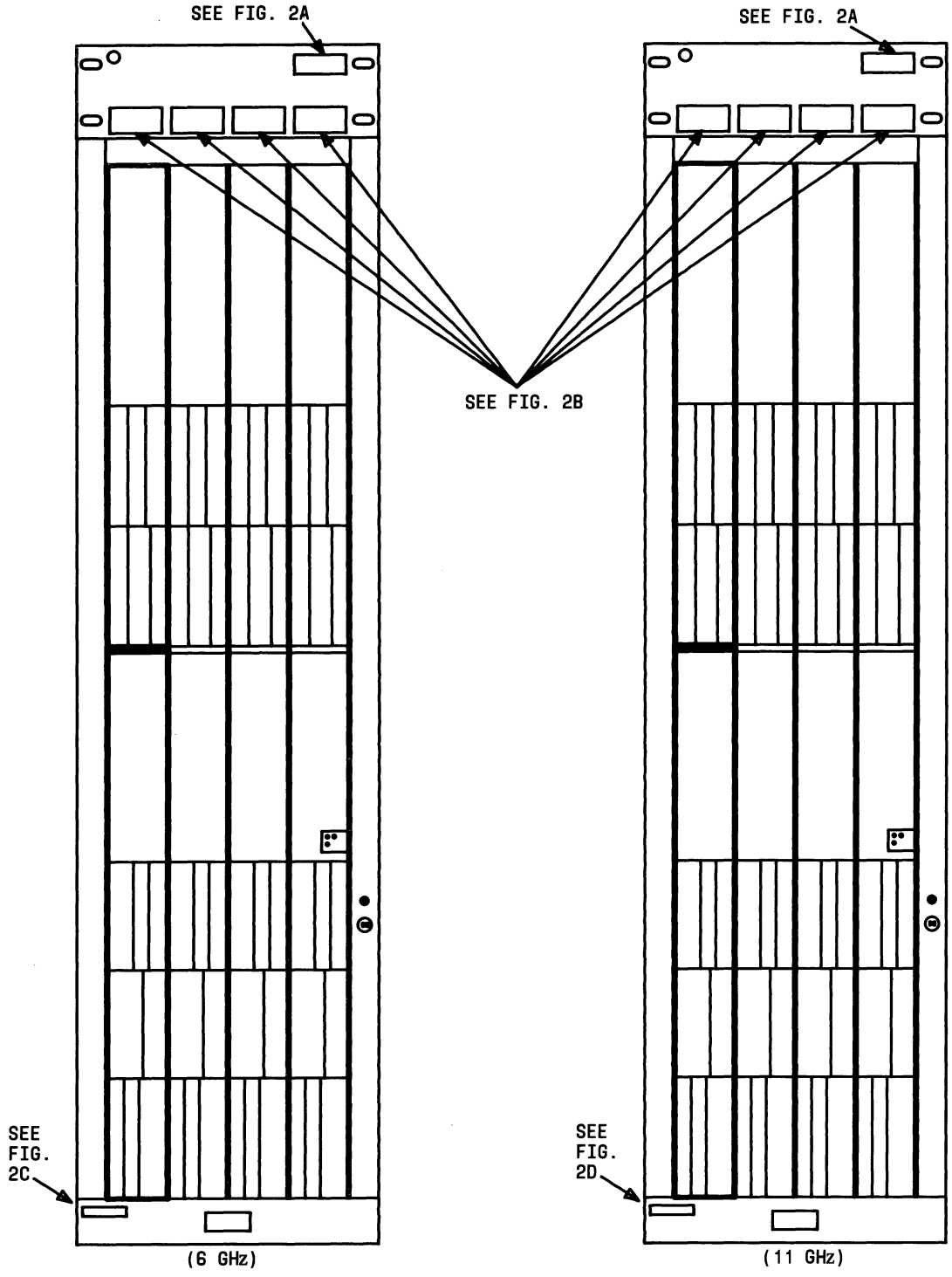


Fig. 2—DR 6-30/DR 11-40-135 Radio Labeling (Sheet 1 of 2)

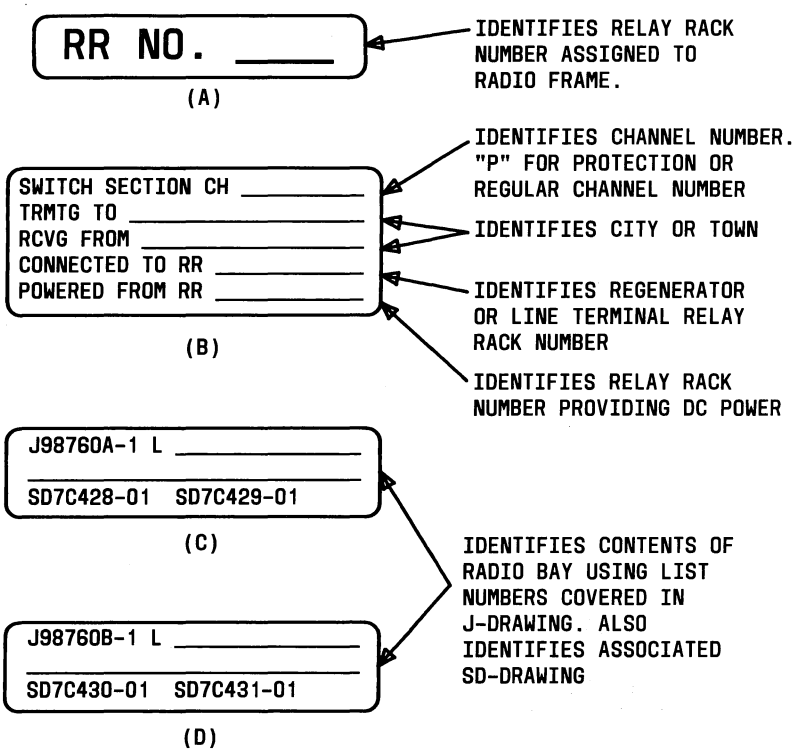


Fig. 2—DR 6-30/DR 11-40-135 Radio Labeling (Sheet 2 of 2)

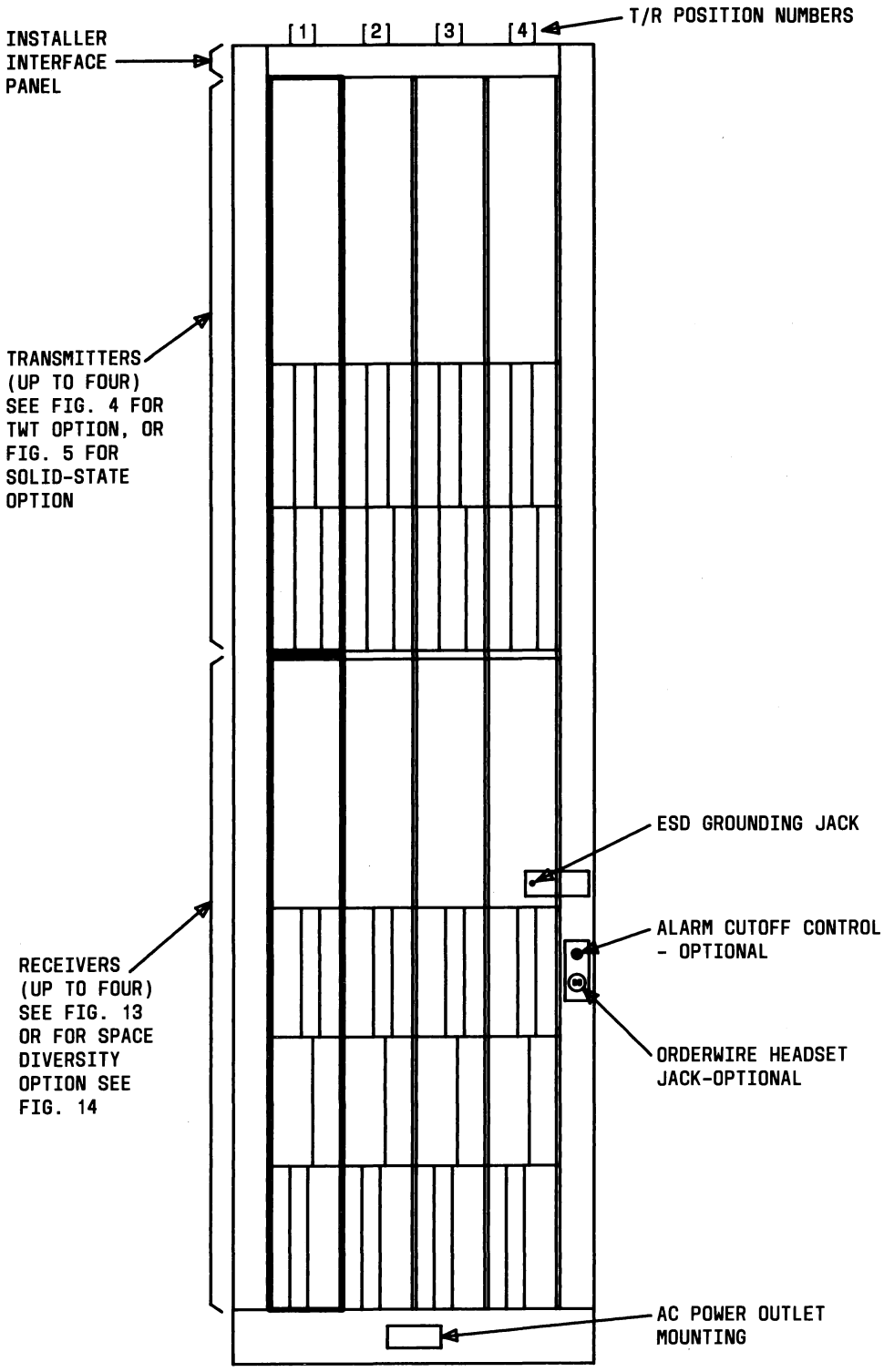


Fig. 3—DR 6-30/DR 11-40-135 Radio Applications

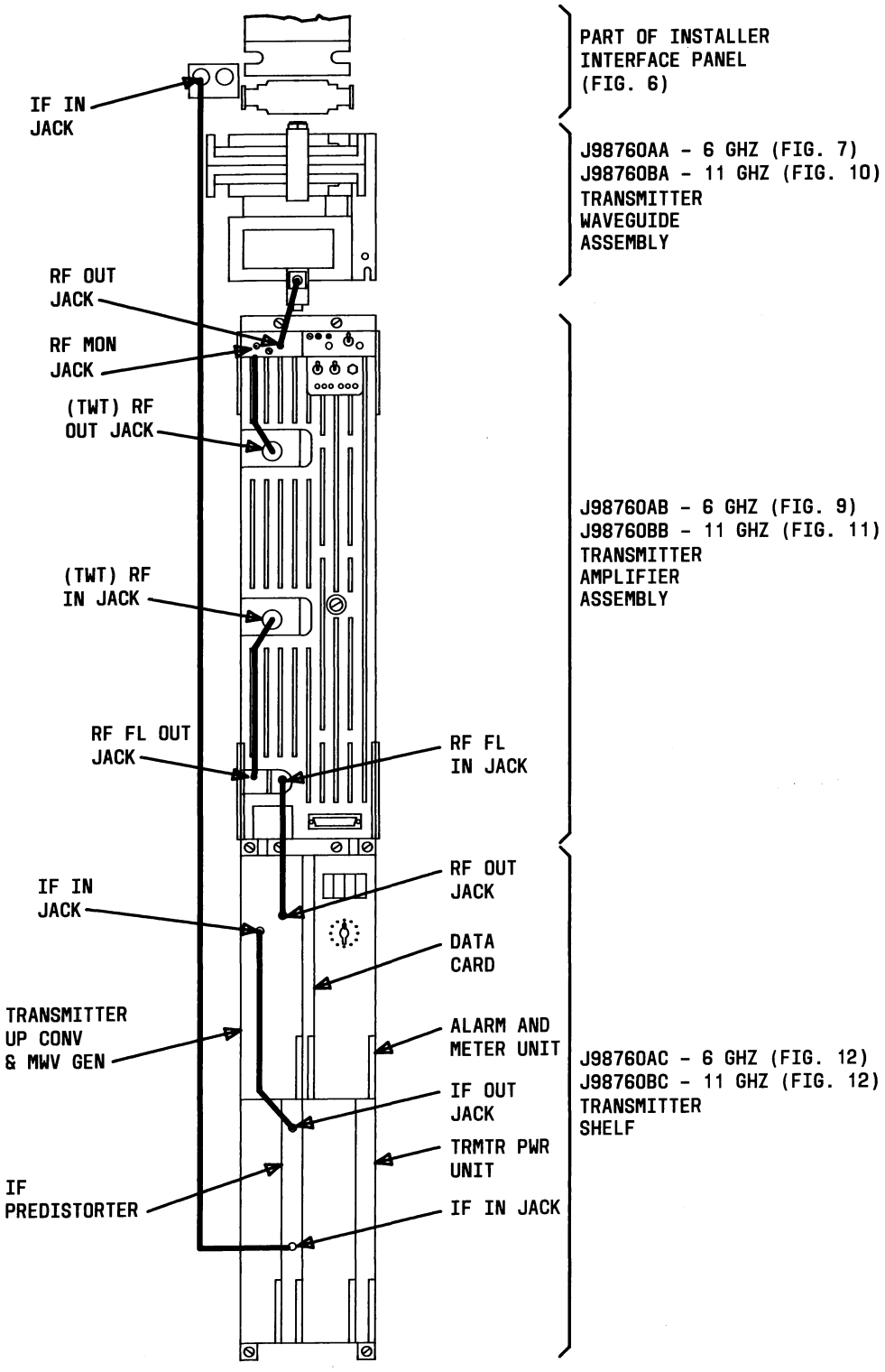


Fig. 4—Radio Transmitter With TWT Option (6 GHz Shown)

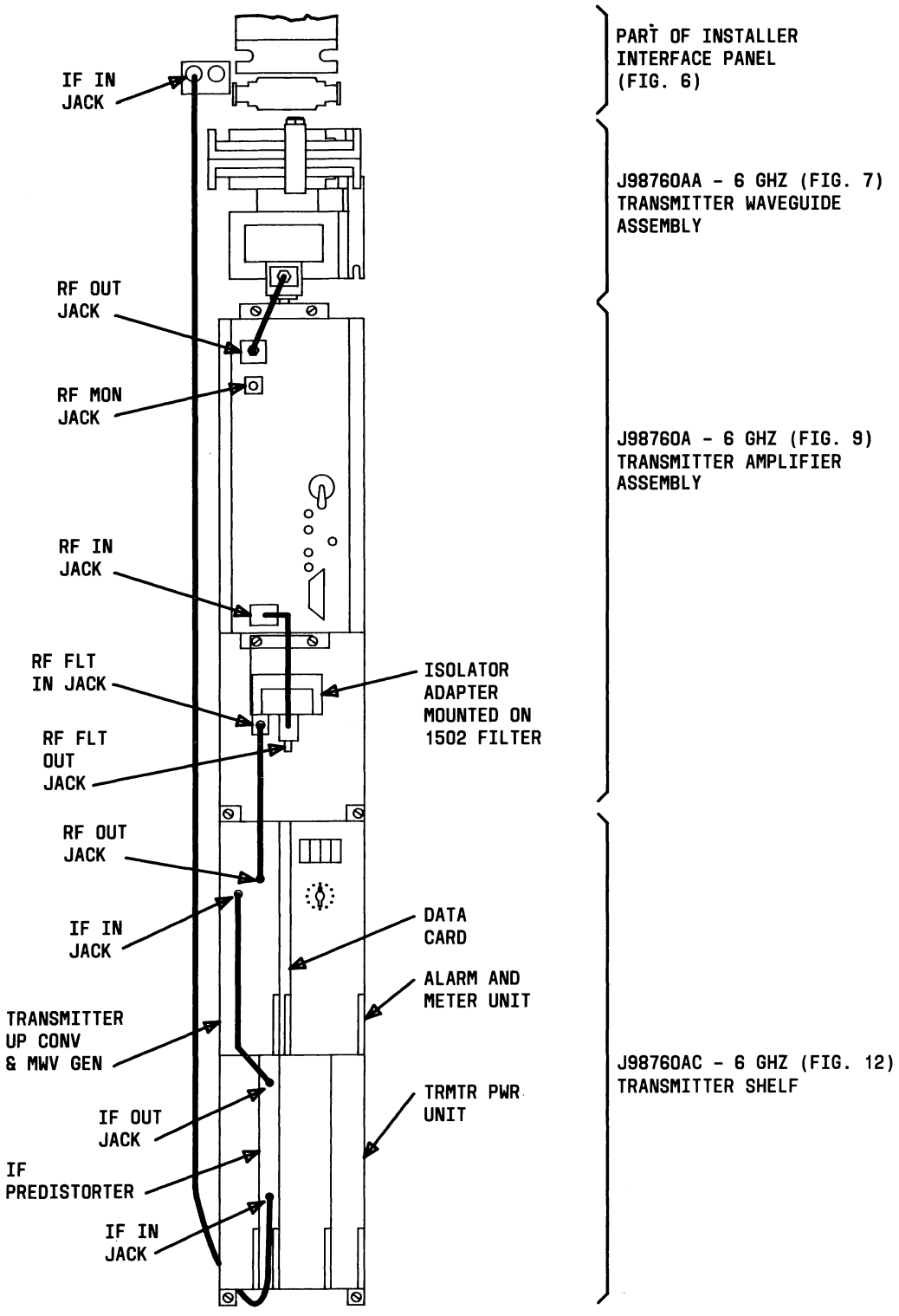


Fig. 5—Radio Transmitter With Solid-State Option

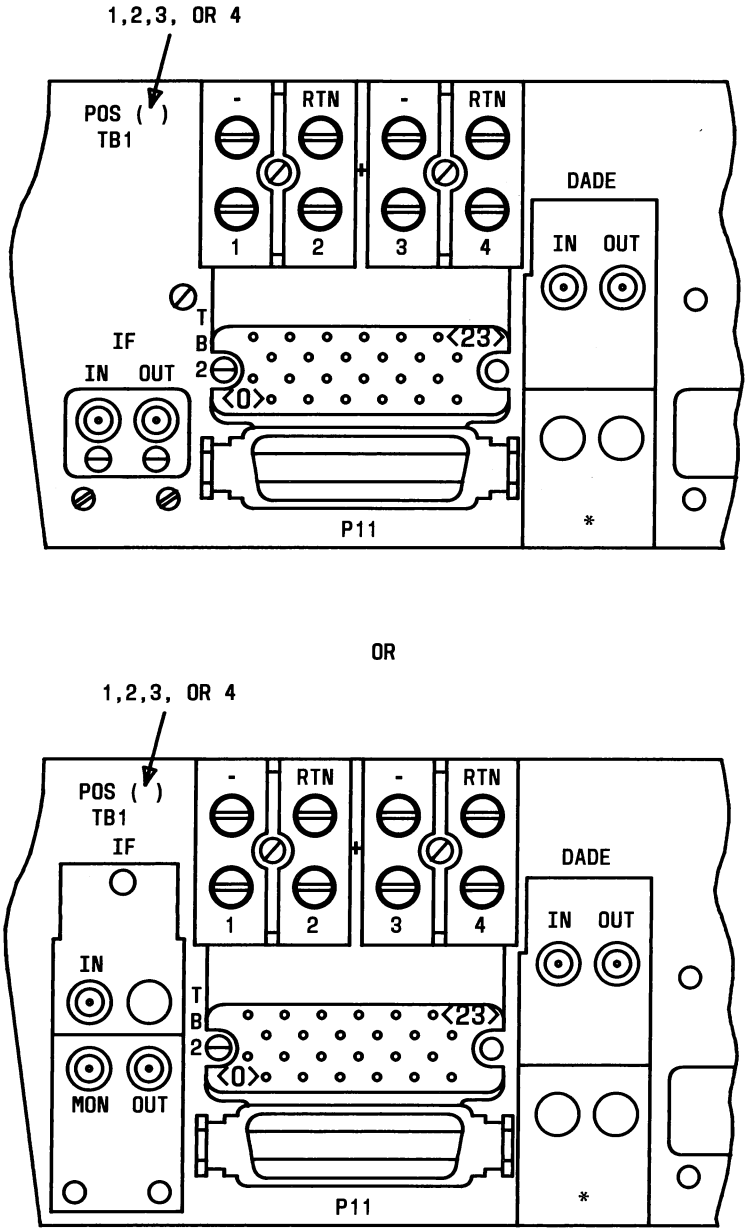


Fig. 6—Part of Installer Interface Panel, One per Vertical T/R Pair

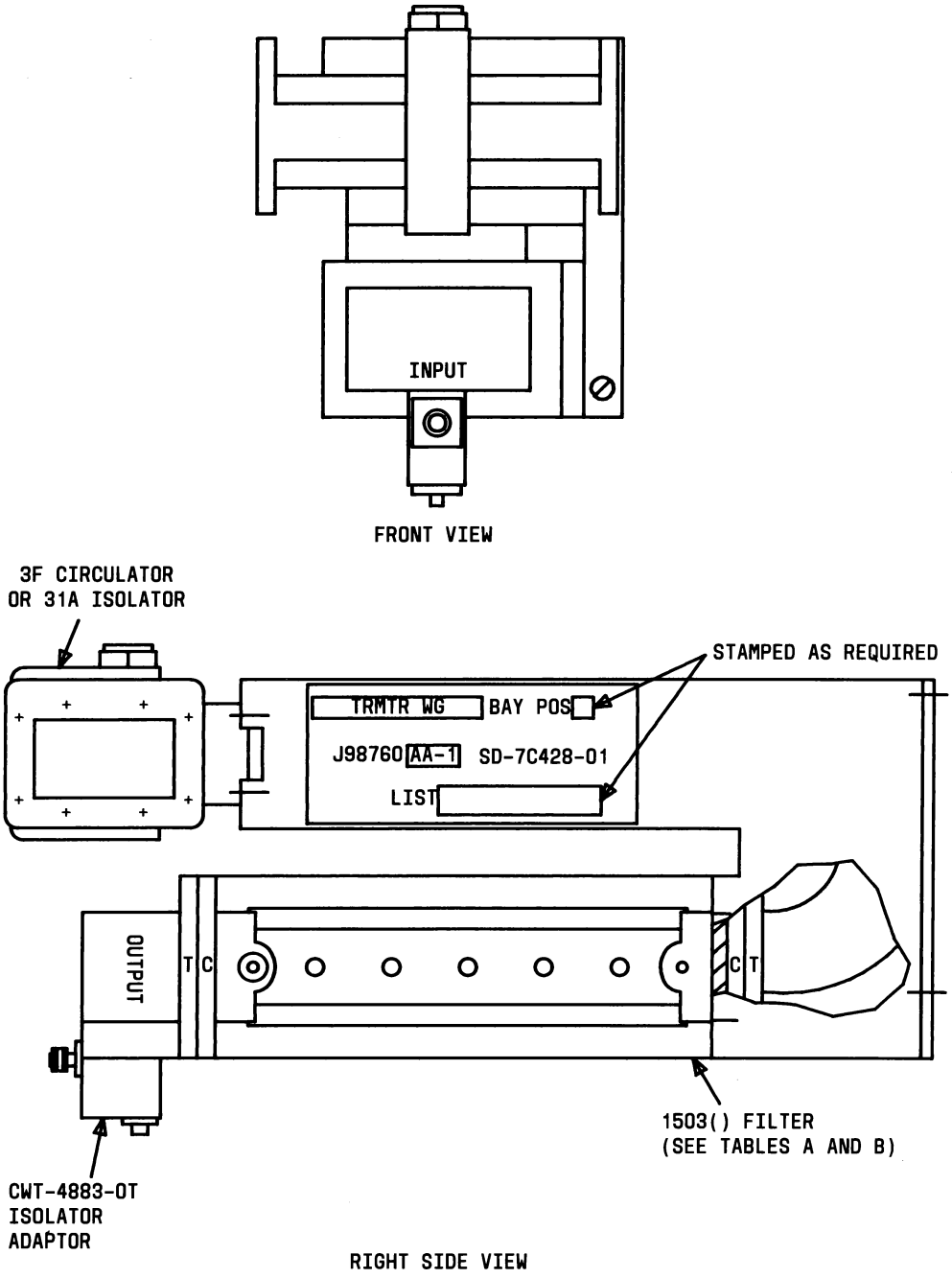


Fig. 7—6-GHz Transmitter Waveguide Assembly

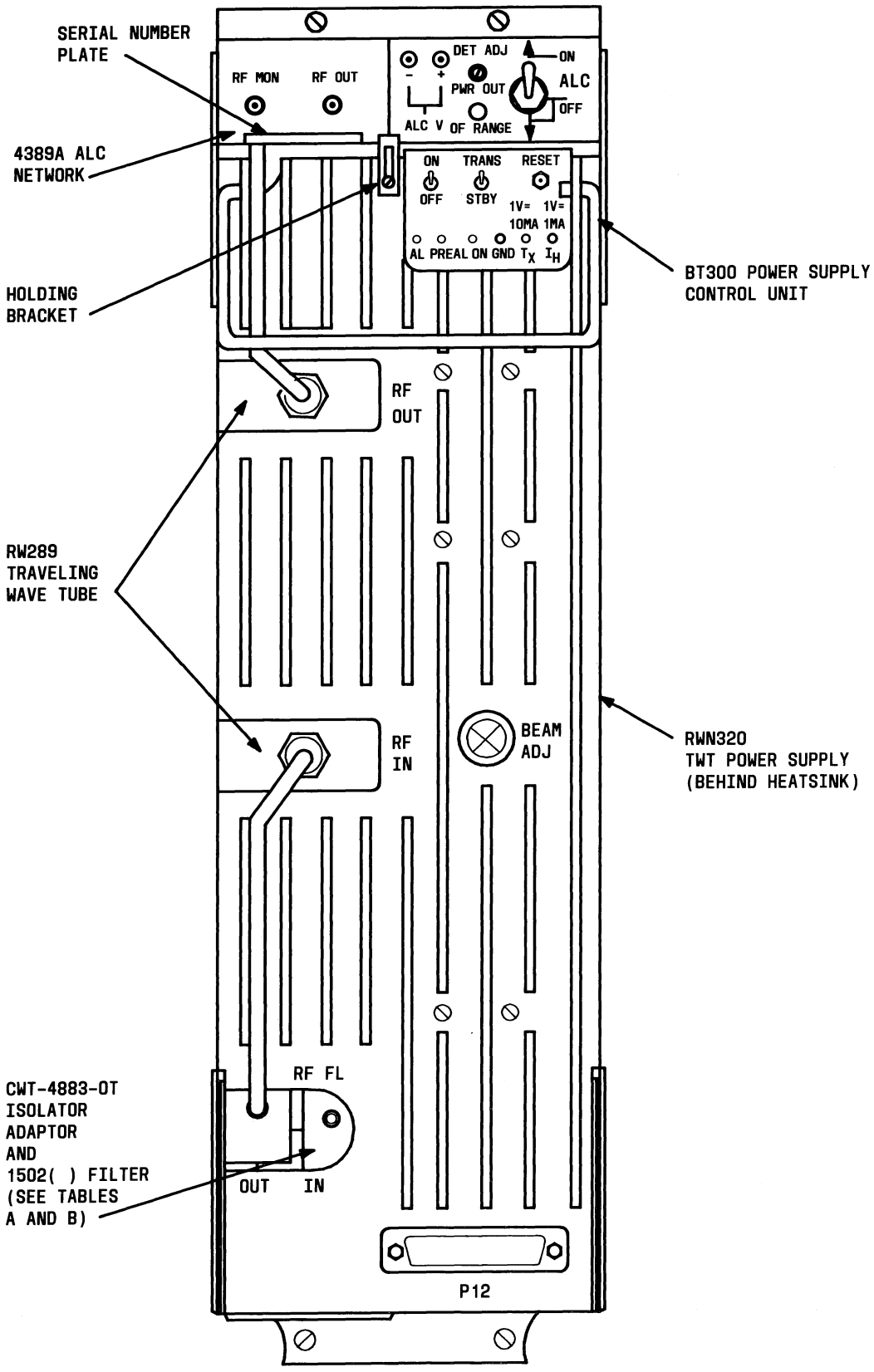


Fig. 8—6-GHz TWT Transmitter Amplifier Assembly With 4389A ALC Network

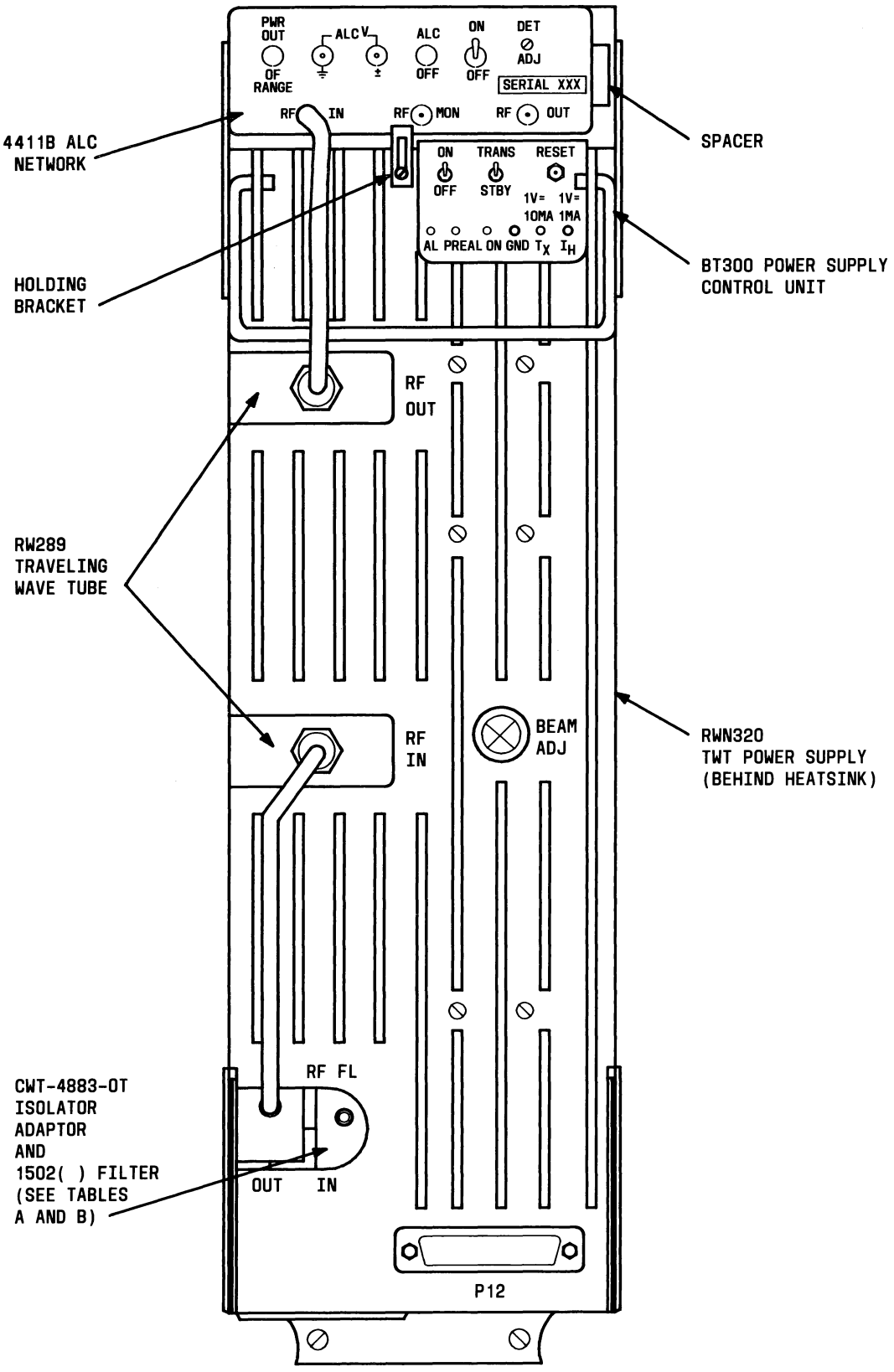


Fig. 9—6-GHz TWT Transmitter Amplifier Assembly With 4411B ALC Network

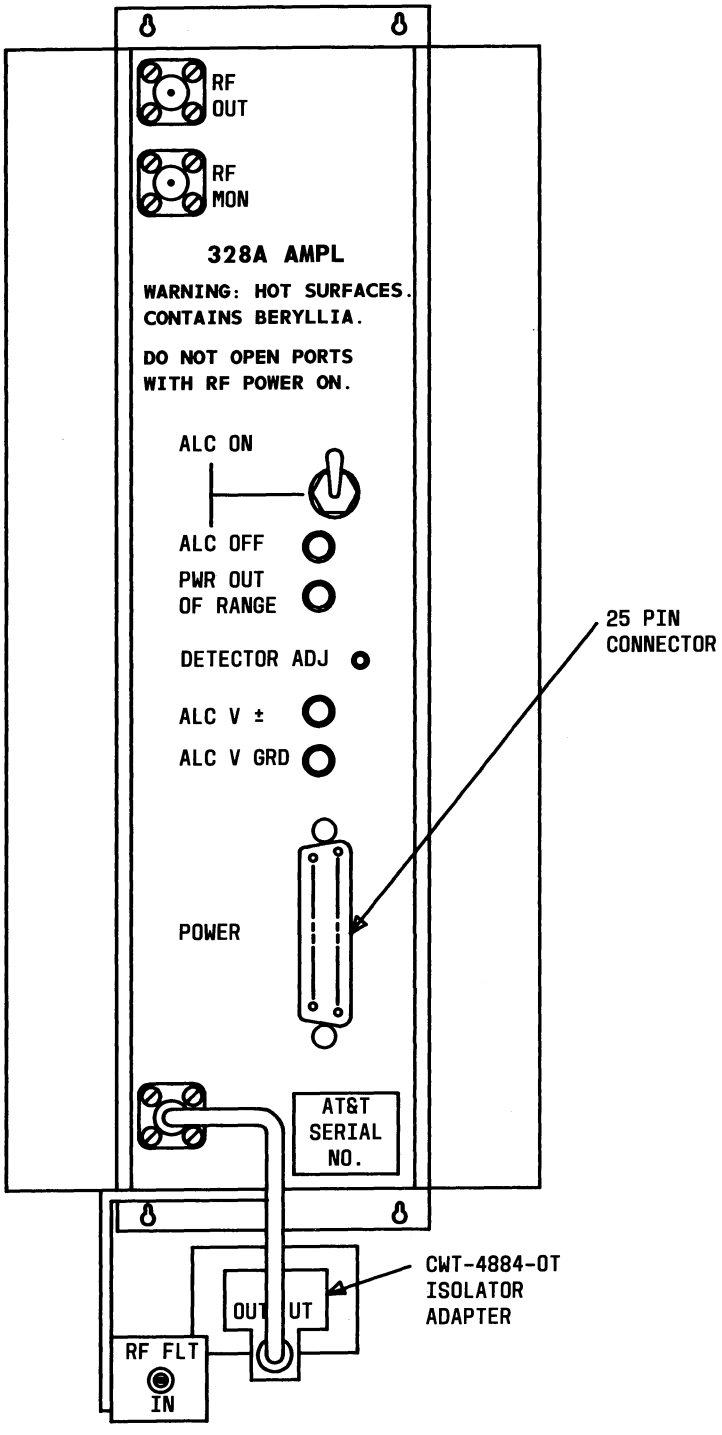


Fig. 10—6-GHz Solid-State Transmitter Amplifier Assembly

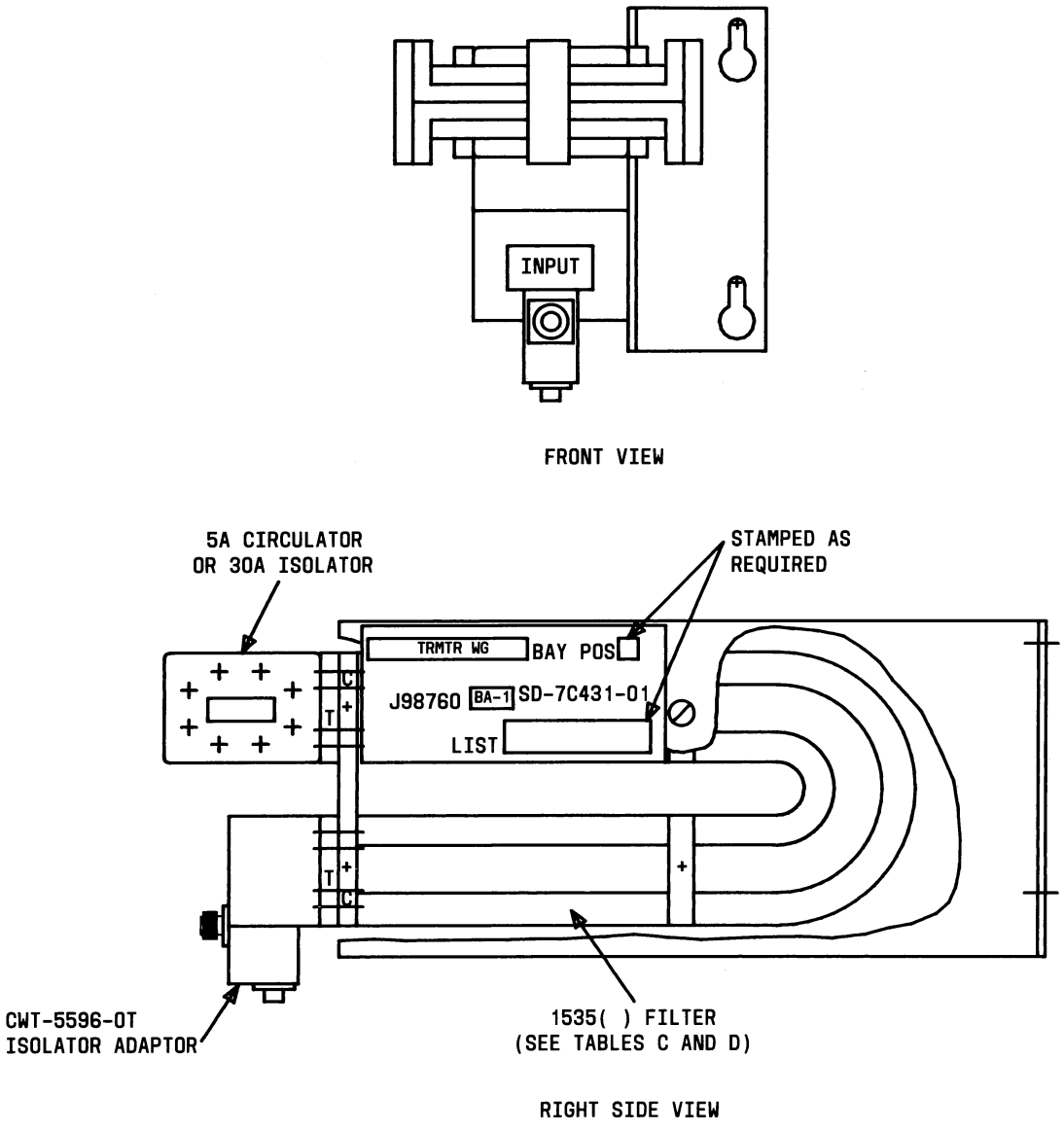


Fig. 11—11-GHz Transmitter Waveguide Assembly

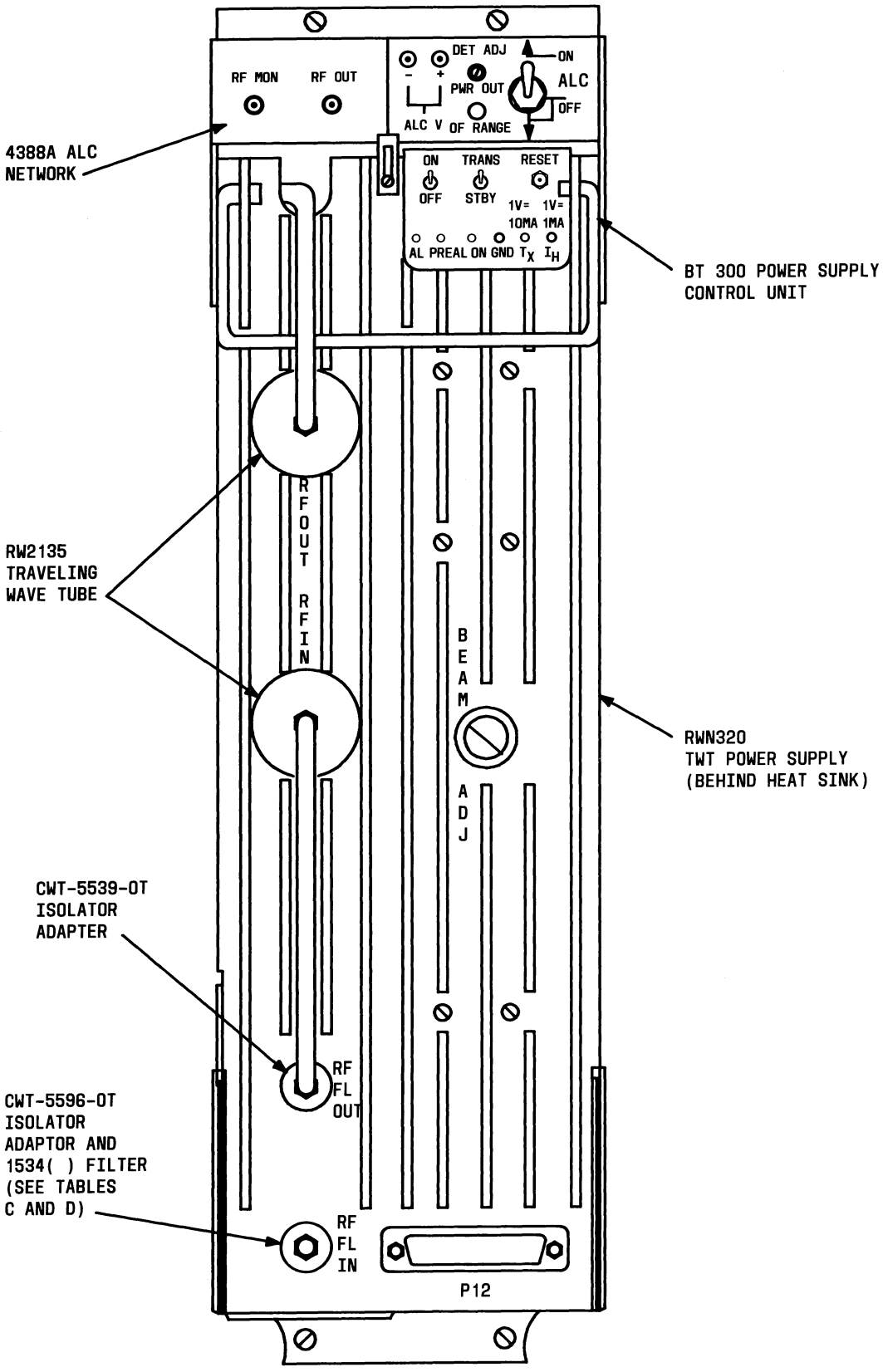


Fig. 12—11-GHz TWT Transmitter Amplifier Assembly With 4388A ALC Network

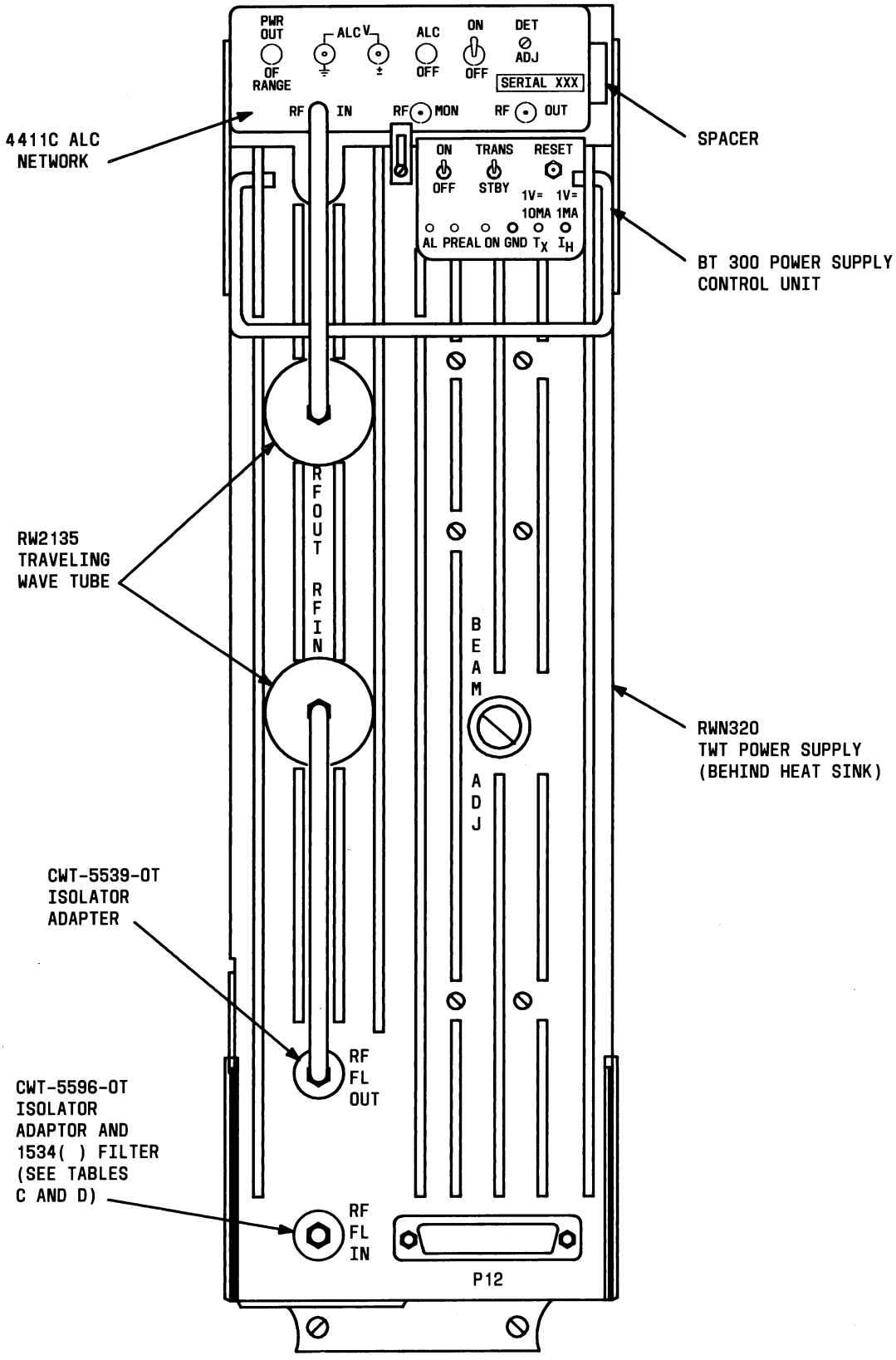
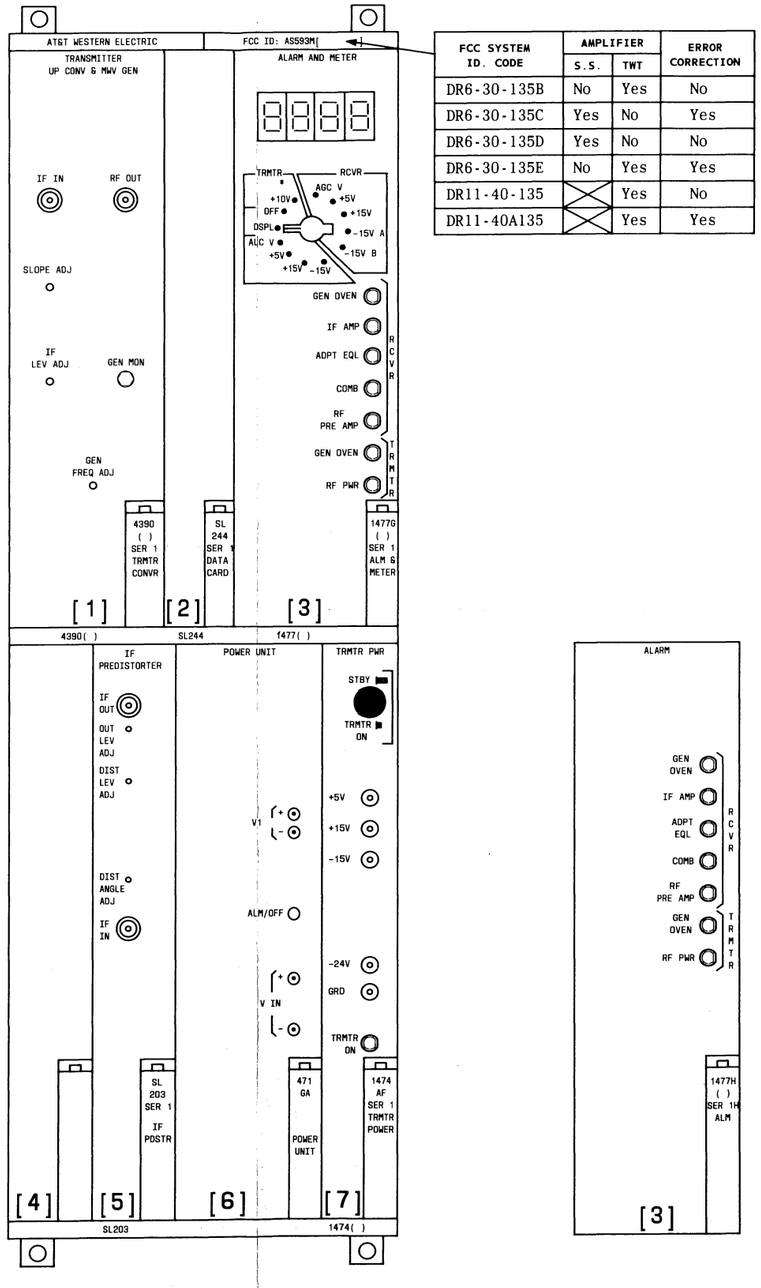


Fig. 13—11-GHz TWT Transmitter Amplifier Assembly With 4411C ALC Network

TABLE E
PLUG-IN UNIT APPLICATIONS
TRANSMITTER SHELF (6 AND 11 GHZ)

POSITION NUMBER	UNIT CODE	FACEPLATE DESIGNATION	APPLICATION
1	4390 (See Tables A and B)	TRANSMITTER UP CONV & MWV GEN	Standard for 6 GHz
1	4383 (See Tables C and D)	TRANSMITTER UP CONV & MWV GEN	Standard for 11 GHz
2	SL244	DATA CARD	Standard unit
3	1477C (Freq. Div.) or 1477G (Hot Stdby)	ALARM AND METER	Required for meter option
3	1477D (Freq. Div.) or 1477H (Hot Stdby)	ALARM	Standard unit
4	159B	Blank	Required with IF predistorter option
5	SL203	IF PREDISTORTER	Required for TWT power amplifier option. Optional with solid-state amplifier
4, 5	159D	Blank	Required when IF predistorter not equipped
6	159C	Blank	Standard when using TWT amplifier
6	471/474GA*	POWER UNIT	Standard for -24 V/ -48 V input power applications
7	1474AF/AE	TRMTR POWER	Standard for -24 V/ -48 V input power applications

* Required for solid-state amplifier applications only.



FCC SYSTEM ID. CODE	AMPLIFIER		ERROR CORRECTION
	S.S.	TWT	
DR6-30-135B	No	Yes	No
DR6-30-135C	Yes	No	Yes
DR6-30-135D	Yes	No	No
DR6-30-135E	No	Yes	Yes
DR11-40-135	X	Yes	No
DR11-40A135	X	Yes	Yes

Fig. 14—Transmitter Shelf (6 GHz Shown)

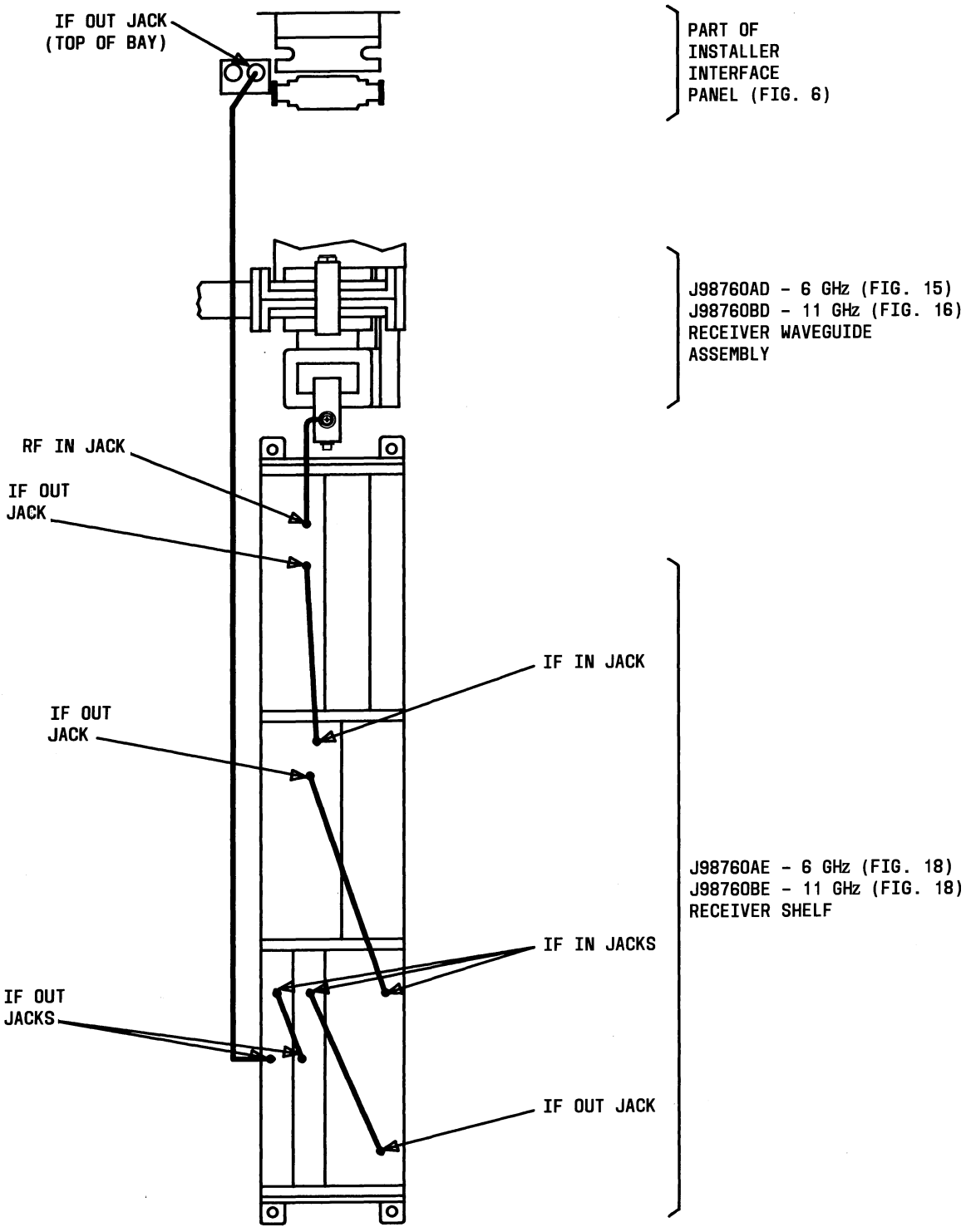


Fig. 15—Radio Receiver (6 GHz Shown)

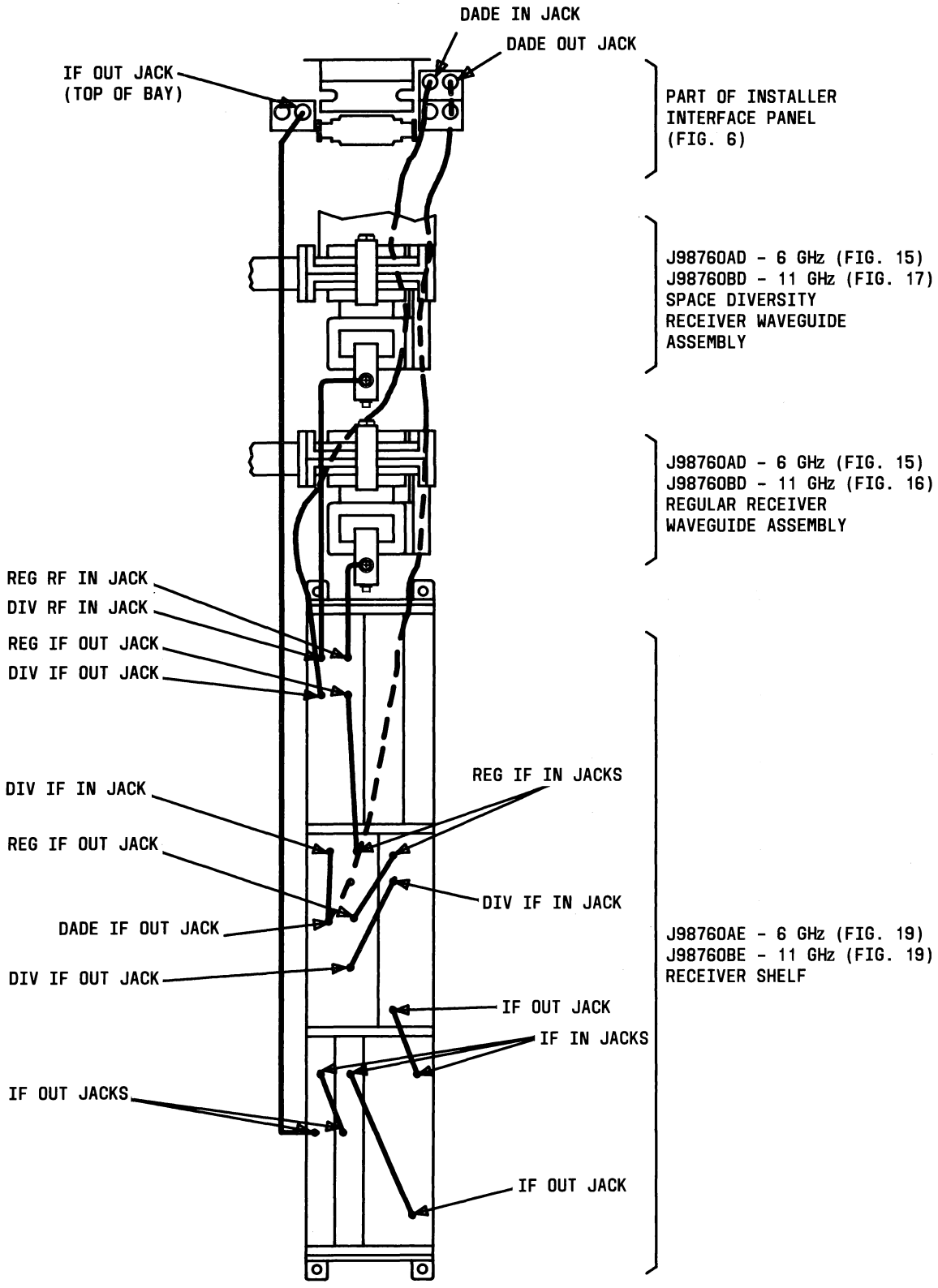
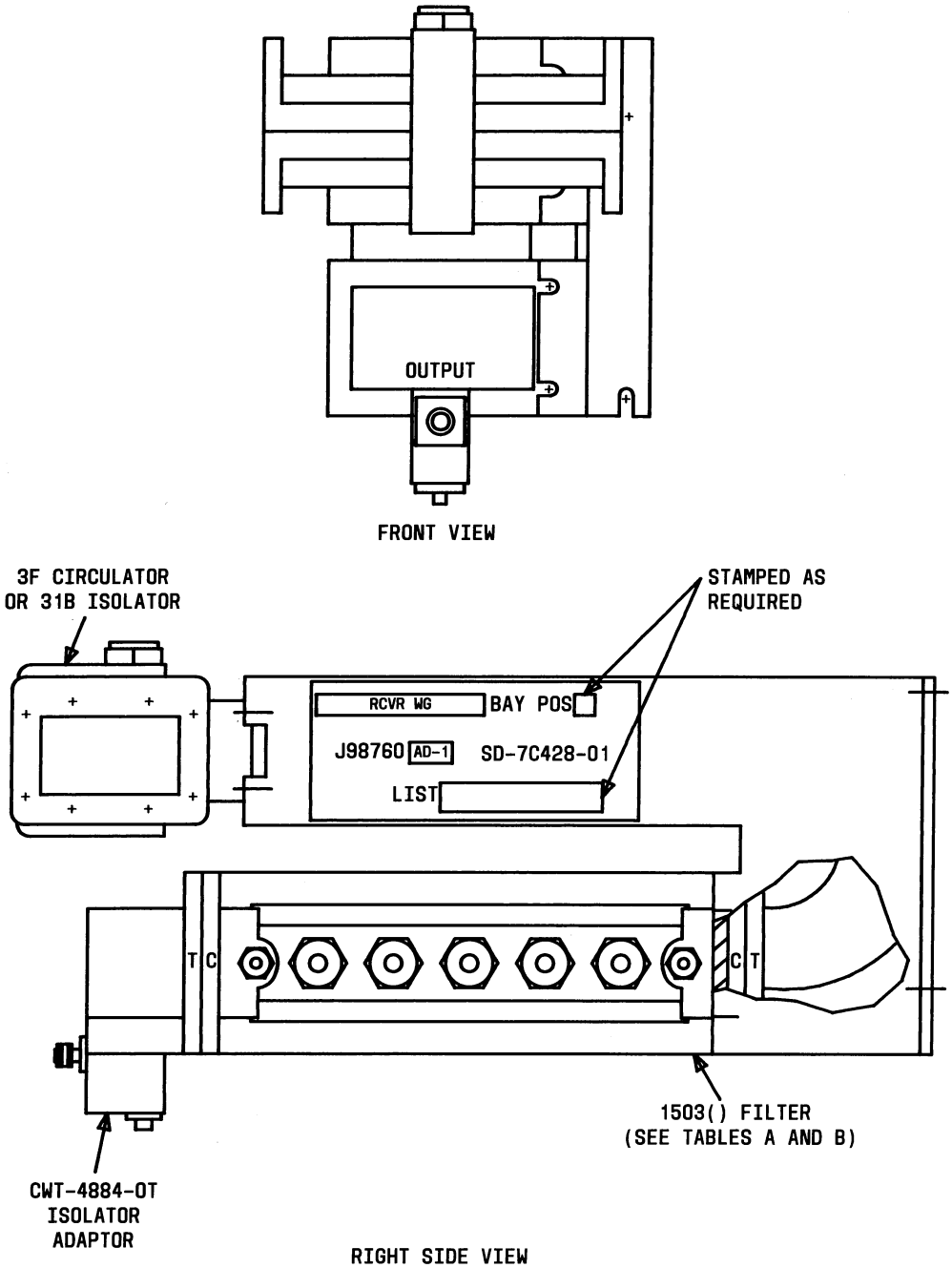


Fig. 16—Radio Receiver With Space Diversity Option (6 GHz Shown)



NOTE: 6 GHz RECEIVERS WITH SPACE DIVERSITY OPTION ARE EQUIPPED WITH TWO IDENTICAL RECEIVER WAVEGUIDE ASSEMBLIES

Fig. 17—6-GHz Receiver Waveguide Assembly

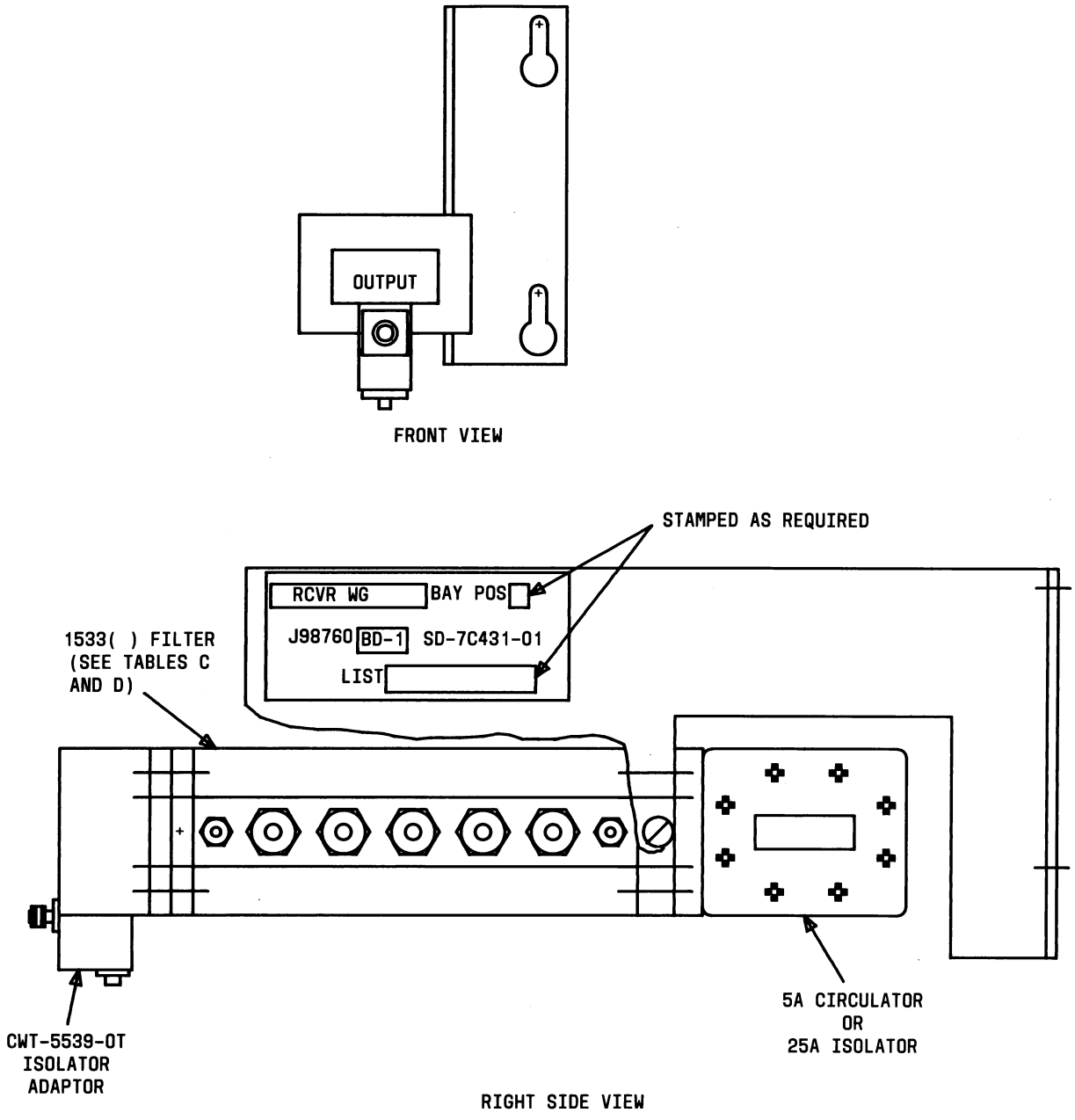


Fig. 18—11-GHz Regular Receiver Waveguide Assembly

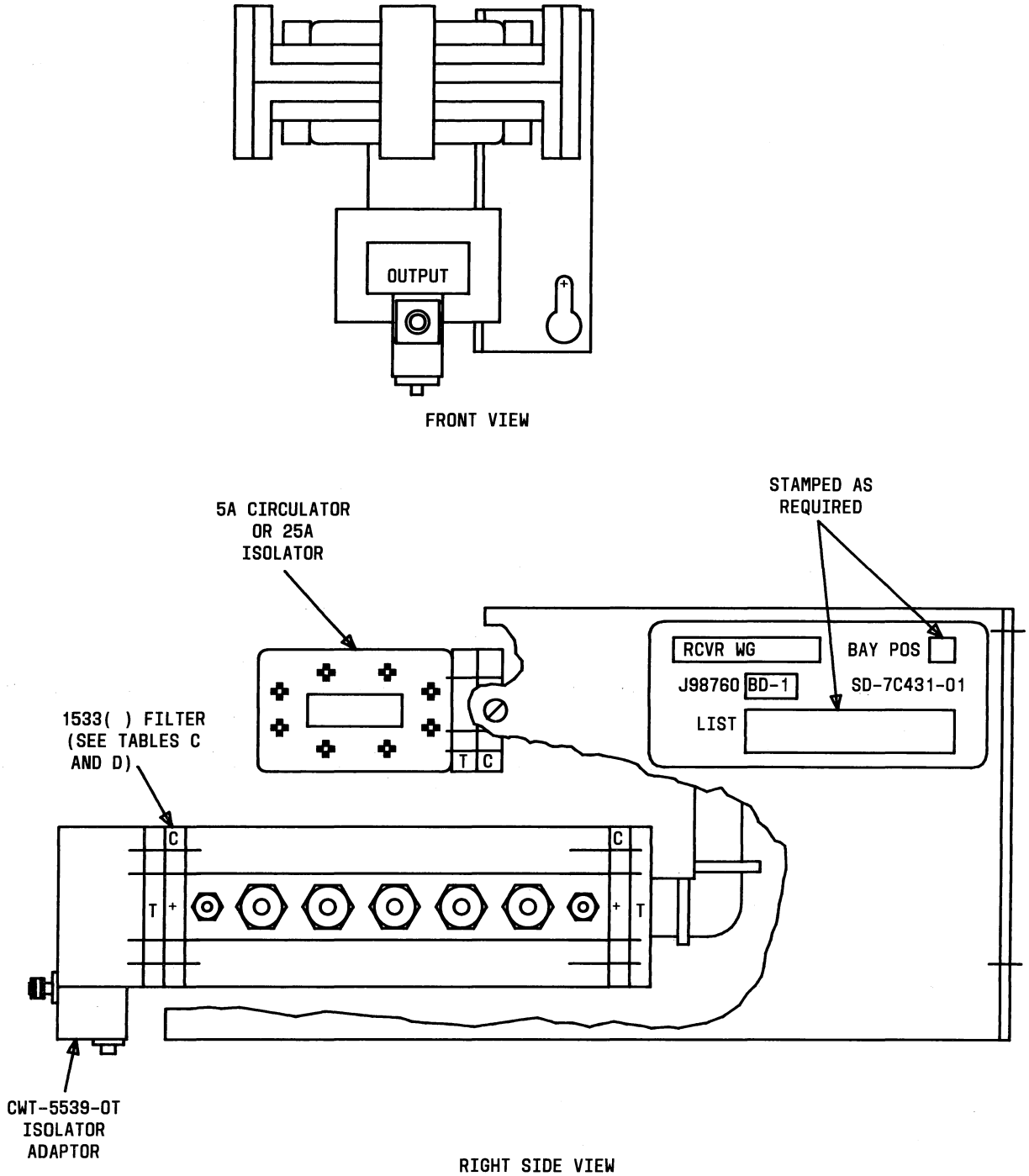


Fig. 19—11-GHz Space Diversity Receiver Waveguide Assembly

TABLE F

PLUG-IN UNIT APPLICATIONS
RECEIVER SHELF (6 OR 11 GHz)

POSITION NUMBER	UNIT CODE	FACEPLATE DESIGNATION	APPLICATION
1	4391(*)	RECEIVER DOWN CONVR & MWV GEN	Standard for 6 GHz
1	4470(*)	RECEIVER DOWN CONVR & MWV GEN	Low Noise Figure Replacement for the 4391(*) Down Convr
1	4384(†)	RECEIVER DOWN CONVR & MWV GEN	Standard for 11 GHz
1	4472(†)	RECEIVER DOWN CONVR & MWV GEN	Low Noise Figure Replacement for the 4384(*) Down Convr
2	159C	BLANK	Standard Unit
3	1474AD	RCVR PWR	Standard for –24 V Input Power Applications
3	1474AB	RCVR PWR	Standard for –48 V Input Power Applications
4	4375A	4375A LINEAR DELAY EQUALIZER	Standard Unit
5,6	153B	BLANK	Standard Unit
7	YJ102	YJ102 ADAPTIVE SLOPE EQUALIZER	Optional Unit
7	153B	BLANK	Standard if Slope Equalizer Option is Not Ordered
8	YJ104B	YJ104B IF AGC AMPL	Standard Unit
9	4376F	4376F IF FILTER AND BASIC EQUALIZER	Standard Unit

* See Tables A and B for Frequency Sensitive Codes.
† See Tables C and D for Frequency Sensitive Codes.

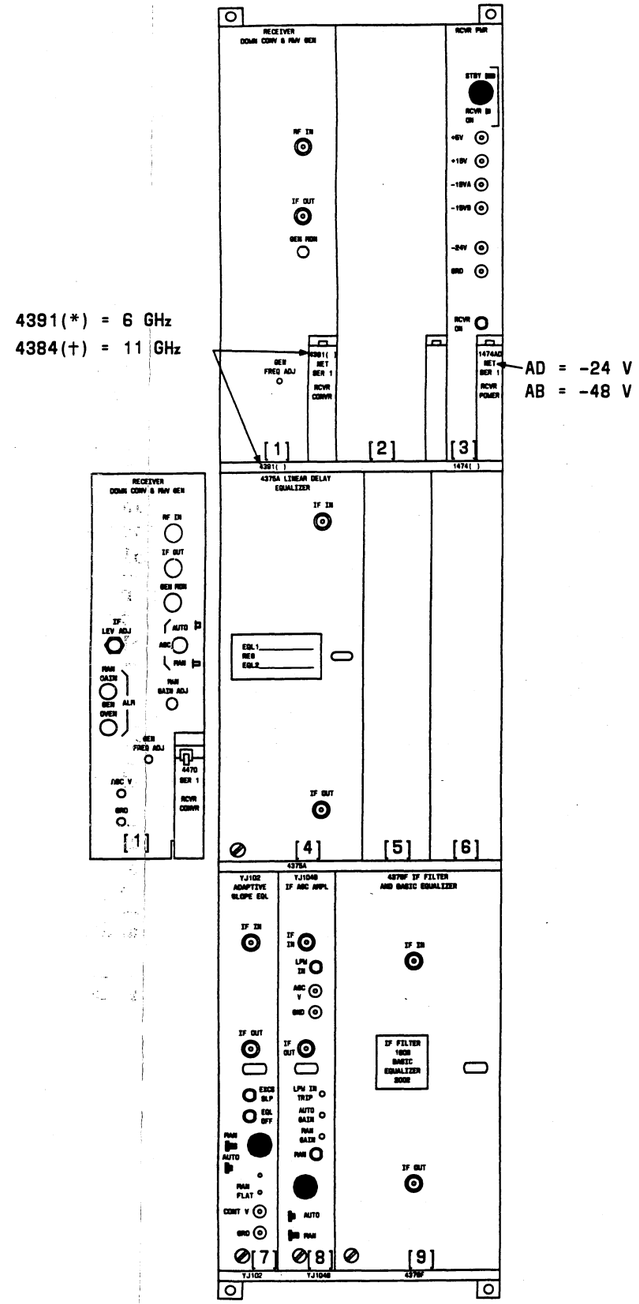


Fig. 20—Receiver Shelf (6 GHz Shown)

TABLE G
PLUG-IN UNIT APPLICATIONS
SPACE DIVERSITY RECEIVER SHELF (6 OR 11 GHz)

POSITION NUMBER	UNIT CODE	FACEPLATE DESIGNATION	APPLICATION
1	4392(*)	RECEIVER-DOWN CONVR & MWV GEN	Standard for 6 GHz
1	4471(*)	RECEIVER-DOWN CONVR & MWV GEN	Low Noise Figure Replacement for the 4392(*) Down Convr
1	4385(†)	RECEIVER-DOWN CONVR & MWV GEN	Standard for 11 GHz
1	4473(†)	RECEIVER-DOWN CONVR & MWV GEN	Low Noise Figure Replacement for the 4385(†) Down Convr
2	4395A	DADE NETWORK	Optional With Space Diversity Option
3	1474AD	RCVR PWR	Provides –24 V Power
3	1474AB	RCVR PWR	Provides –48 V Power
4	4375B	4375B LINEAR DELAY EQUALIZER	Required With Space Diversity Option
5	WY11	WY11 IF COMBINER	Required With Space Diversity Option
6	YJ102	YJ102 ADAPTIVE SLOPE EQUALIZER	Optional Unit
6	153B	BLANK	Standard if Slope Equalizer Option is not Ordered
7	YJ104B	YJ104B IF AGC AMPL	Standard Unit
8	4376F	4376F IF FILTER AND BASIC EQUALIZER	Standard Unit

* See Tables A and B for Frequency Sensitive Codes.
† See Tables C and D for Frequency Sensitive Codes.

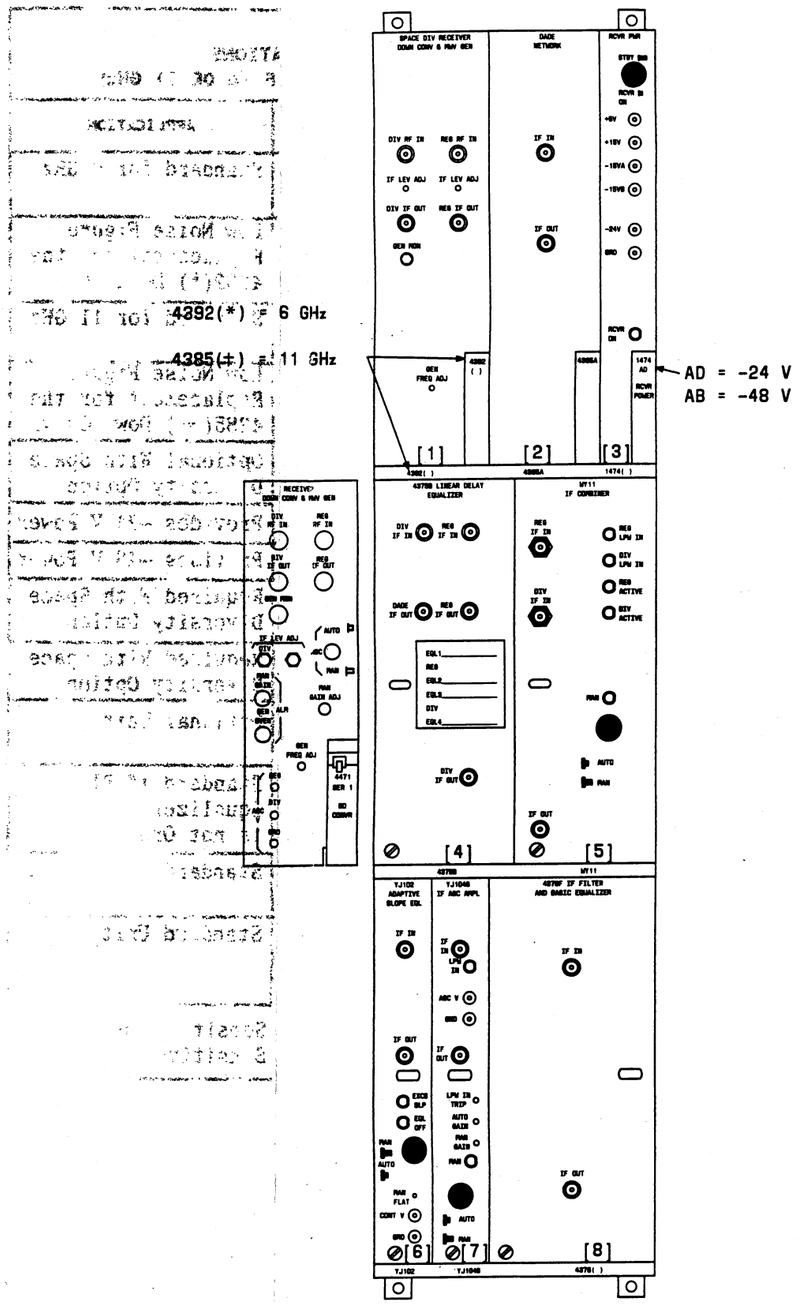


Fig. 21—Receiver Shelf With Space Diversity Option (6 GHz Shown)