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## 1. GENERAL

1.01 The MultiFlex-J (MFTJ) product is an outdoor cable powered or indoor mains powered (U.L., C.U.L. and C.E. listed) amplifier housed in an aluminum die-cast housing having superior heat dissipation characteristics. Cable powering is accomplished through a high efficiency (80%) universal switch mode power supply. Mains powering is accomplished through a high efficiency (82%) universal switching power supply (90-240 VAC). The AC mains power input is through a standard IEC 320 plug. Only the power cord needs to be changed as required for the various AC outlet configurations worldwide. (See Figure 8 for power cord set options.)

1.02 Mounting is accomplished using easily accessible external tabs, allowing a variety of placements in vented lockboxes or pedestals. RF connection is made through high performance SCTE compliant "F" type cable connectors or hard-line 5/8" standard pin-type cable connectors allowing the flexibility to place the unit on any type of cable.



Figure 1 MultiFlex-J

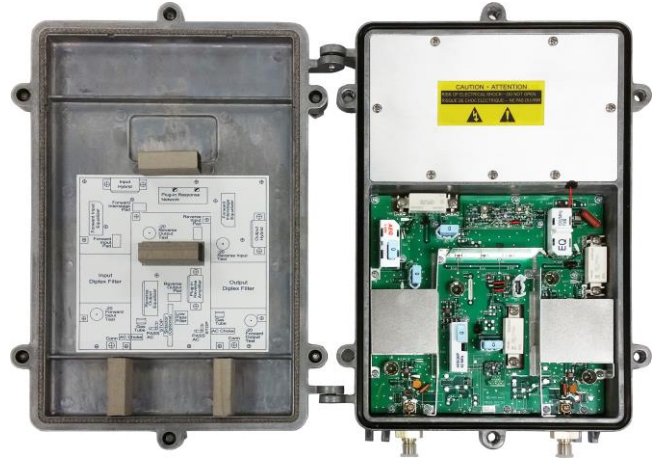


Figure 2 MultiFlex-J Internal View

1.03 The standard GaN MultiFlex-J has 45 dB of forward gain with 8 dB operational slope from 54-1002 MHz. The reverse bandwidth is 5-42 MHz with reverse gain options of 19 dB, 24 dB or a jumper for passive reverse.

1.04 Control of station's input levels and output levels, and are achieved through plug-in JXP style attenuator pads in the forward and reverse paths. Plug-in forward and reverse path equalizers are used to configure unit for desired slope. The slope in the forward path can easily be set up for 750, 870 or 1002 MHz operational levels by simply selecting the appropriate family of equalizers to use.

1.05 The MultiFlex-J is equipped with input & output -20 dB directional coupler test points. It is recommended that the ACI test probe (P/N100685-01 or TP-7504) be used whenever setting and aligning the amplifiers.

1.06 The MultiFlex-J amplifier has many options. Each is variable according to the customer/operator's requirements. It is advised that a technician be well-versed in the options, gains, powering and alignment of the MultiFlex-J amplifier before attempting installation or maintenance.

1.07 As in any electrical device, the MultiFlex-J should only be installed and operated by qualified technicians.

## 2. SAFETY INFORMATION

2.01 This section explains the graphic symbols and warnings associated with the MultiFlex-J.



Figure 3: Warning Lightning Flash Symbol

a.) The lightning flash with arrowhead symbol within an equilateral triangle (Figure 3) alerts the user to the presence of uninsulated “dangerous voltages” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

**WARNING:** To reduce the risk of electric shock, a user must not remove any cover containing the warning symbol depicted in Figure 3. No user-serviceable parts are inside. Servicing should be referred to qualified service personnel.



Figure 4: Caution Exclamation Point Symbol

b.) The exclamation point within an equilateral triangle symbol (Figure 4) alerts the user to the presence of important operating and maintenance (servicing) instructions in the literature included with the unit.

### 2.02 IMPORTANT SAFEGUARDS

**Read Instructions** - All of the safety and operating instructions should be read before this equipment is operated.

**Retain Instructions** - The safety and operating instructions should be retained for future reference.

**Cleaning** - Unplug the amplifier from the wall outlet or cable line before cleaning. Use a damp cloth for cleaning.

**Water and Moisture** - For mains (90-240 VAC) powered units, to reduce the risk of electrical shock, do not expose this amplifier to rain or moisture. For example, do not use near a bathtub, wash bowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, etc.

**Power Sources** - This amplifier should be operated using only the power source indicated on the marking label.

**Grounding** - The mains (90-240 VAC) powered version is equipped with a 3-wire grounding type plug.

**Power Cord Protection** - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs and the point where they exit from the amplifier.

**Outdoor Antenna Grounding** - If an outside antenna or cable system is connected to the amplifier, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges. Article 820-40 of the NEC provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

**Power Lines** - An outside antenna system should not be located in the vicinity of overhead power lines or

where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.

**Overloading** - Do not overload wall outlets and extension cords. This can create a risk of electric shock.

**Object and Liquid Entry** - Never push objects of any kind into this amplifier through any openings. They may touch dangerous voltage points or short out parts which could result in a fire or electric shock. Never spill liquid of any kind on this amplifier.

**Damage Requiring Service** - Unplug the line powered version of this amplifier from the wall outlet and refer servicing to qualified service personnel under the following conditions:

A. When the power supply cord or plug is damaged.

B. If the amplifier does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions.

C. When the amplifier exhibits a distinct change in performance, it indicates a need for service.

Only qualified personnel may unplug the cable powered version.

**Replacement Parts** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or which have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

**Safety Check** - Upon completion of any service or repairs to this amplifier, ask the service technician to perform safety checks to ensure that the amplifier is in proper operating condition.



Figure 5 Warning Label

c.) The warning label shown in Figure 5 indicates that the cover should be opened only by a qualified electronic technician.



**WARNING:** If the power outlet is not a 3-wire grounding type and your country's powering outlets require a grounding plug, do not plug in this amplifier.



Contact your electrician to replace the obsolete outlet.

**WARNING:** To reduce the risk of electric shock, only qualified service personnel should perform any procedures in this manual that require opening the amplifier.

3. INSTALLATION

3.01 Survey the location prior to installation, ensuring that access to cables, external power connection (if mains powered), weather and water protection, and grounding requirements are met.

**NOTE** to CATV System Installer: If this equipment is to be used in a CATV system, this is a reminder to call your attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

3.02 UNPACKING

Upon receipt of the equipment, inspect for damage. Unpack the boxes and make certain that there has not been shipping damage. Keep the protective packaging material and the original carton. If it should become necessary to return the unit for repair, it is recommended that it be packed in its original container to minimize shipping damage.

3.03 All units are fully tested at the factory for proper operation prior to shipping. However, bench testing and pre-alignment of the unit according to the location design requirements is a good practice.

3.04 MOUNTING

Determine a location for mounting the MultiFlex-J amplifier. Ensure that the correct length of cable is available for proper connection. Locate the external mounting tabs on the MultiFlex-J housing and mark the location on the mounting surface. Pre-drill the locations if necessary. Use screws or lags and attach it to the mounting surface. Slide the unit on the two bottom screws and slip the top mounting slot over the screw. Use an offset screwdriver to tighten the top screw or open the unit cover, slide the screwdriver through the top cover bolt hole and tighten the mounting screw.

3.05 SETUP and BALANCING

Forward signal setup procedure:

- a) Loosen the cover bolts and open the housing lid.
- b) For mains powered units (90-240 VAC), plug the power cord IEC 320 inlet plug into the housing, and the outlet plug into the closest outlet box. For cable powered units (40-90 VAC), configure the power directors (see item 11 Figure 6) to the Power **Pass AC** or **Stop** position for your powering requirements.
- c) Connect a signal level meter or spectrum analyzer to the forward input test point (see item 14 Figure 6). Record the RF level of a low frequency channel (channel 2, 3, or 4), also record the RF level of one of the highest frequency channel carried (closest channel carried to 750, 870, or 1002 MHz). Remember that the level recorded will be 20 dB below the actual system input level. Verify that the input level is correct. If it is not, check the connections and the source supplying the RF signal until the level is correct.
- d) It is important to achieve a flat input to the first hybrid. To achieve this, the correct input equalizer pad value must be installed. The correct input equalizer pad value can easily be selected using the following procedure. Subtract the RF level recorded for the high frequency channel from the RF level recorded for the low frequency channel. This number can be positive or negative. Refer to Table 2, (Forward Equalizers table) to find the closest matching number with the calculated value at the desired high frequency. This will be the correct equalizer type and pad value to use to achieve a flat input to the first hybrid.
- e.) Remove the jumper or existing device (if present) then installed the selected equalizer in the input equalizer location. The required input levels to the first hybrid will vary with system design and desired distortion performance.

f) Subtract the input attenuator value from the measured HF input level. This should be the recommended design input level. Adjust the value of the input attenuator by increasing or decreasing the input attenuator value until the recommended input level is achieved (see Table 4 for the available attenuator pad values).

### 3.06 REVERSE SETUP PROCEDURE

- a. Refer to your system's reverse setup practice and procedures.
- b. Use the forward output -20 dB test point to inject reverse balancing sweep or carriers.
- c. Use -20 dB reverse input test point to measure reverse input as per system specifications.
- d. Use -20 dB reverse output test point to measure reverse output as per system specifications.
- e. Change reverse output pad to achieve reverse output RF level as per system specifications (See Table 6 for the available attenuator pad values).
- f. Change reverse equalizer pad value to achieve reverse output slope as per system specifications (see Table 5 for the reverse equalizer loss values).
- g. When the unit is setup and completely tested, close the cover and tighten the cover bolts.

**NOTE:** After the amplifier has been operating for some time, the housing will feel warm to the touch. This is normal and not detrimental to the operation of the equipment.

### 4. CONTROLS AND CONNECTIONS

Mains Powering Fuse: 250V 2A Slow Blow

Cable Powering Fuse: 250V 3.15A Slow Blow

**Note:** The fuse is located under the power supply cover.

RF Input/Reverse Output: "F" connector

RF Output/Reverse Input: "F" connector

Forward Input/Output Test Point: Reads input/output level of the forward amplifier that is -20 dB below the actual input level.

Reverse Input/Output Test Point: Reads input/output to the reverse amplifier that is -20 dB below the actual level.

### 5. MAINTENANCE

**NOTE:** Only factory recommended replacement parts should be used when servicing this equipment.



**WARNING:** Removal of the power supply cover plate with the label shown in Figure 4, should be performed only by qualified service personnel.

**DANGEROUS VOLTAGES** exist under the power supply cover plate.

#### 5.01 RESISTANCE TESTING

After repair and before returning the amplifier for service, check to ensure that exposed parts are insulated from the supply circuit as follows:

a. With a Fluke 8020A or equivalent meter set to read resistance, measure each blade of the power cord to ground. The meter should indicate an open circuit.

**NOTE:** The round pin on the power plug will read a short to ground since it is connected to the chassis inside of the amplifier.

b. If the meter does not read an open circuit, do not use the amplifier until the problem is corrected and it has been properly repaired.

#### 5.02 RETURN AUTHORIZATION

If you wish to use ACI COMMUNICATIONS' factory repair service, pack the amplifier in its original carton. If the original carton is not available, pack the amplifier carefully to prevent damage during shipment to the factory. Before shipping the amplifier, call the factory Customer Service department and receive a return authorization number. Amplifiers returned without a proper return authorization number displayed on the outside of the package will be returned to the sender without being opened.

#### 5.03 WARRANTY

The MultiFlex-J is warranted against defects in parts and workmanship for a period of one year from the date of shipment. The warranty does not cover damage resulting from abuse, lightning or other causes beyond the manufacturer's control.

MFTJ GaN 42/53 1002 MHz (MDU Amplifier)					
		Notes	SPECIFICATION	Hybrid Reverse	
			GaN Forward Hybrids	RTA24HY-065	RTA30HY-065
Bandwidth (MHz)			54 to 1002	5 to 42	
Station flatness	1		± 0.5	±0.5	
Gain (dB)	2		45.0	19.0	24.0
Slope (dB)	1		8 ±1.0	0 ±1	
Return loss (dB) worst case	1		16.0	16.0	
RF test point (dB)			-20.0 ±1.0	-20.0 ±1.0	
<b>Distortions Worst Case</b>					
Channel loading	3, 8		79	6	
Rated output level (dBmV)	3		39/54	35	
Rated output slope (dB)	3		15.0 ±1.0	0	
Composite Triple Beat CTB (-dBc)	4		71.0	80.0	
Composite Second Order CSO (-dBc) high side	4		75.0	79.0	
Cross Modulation XMOD (-dBc)	5		78.0	72.0	
Noise figure (dB)	6		7.8	9.0	
<b>Group Delay (ns)</b>					
Forward (n + 3.58 MHz) (ns)			30 (worst case)		
Reverse (n + 1.5 MHz) (ns)			36 (worst case)		
Surge protection (kv)	7		6		
<b>Power Requirements (With Active Reverse Path)</b>					
		Units			
Mains powered (90-240 VAC)		W	24.1 (Max)		
Cable powered (40-90 VAC)		W	25.1 (Max)		
<b>Current Draw (With Active Reverse path) 40-90 VAC only</b>					
Input Ranges (Selectable)		Units	40-90		
@ 40 VAC		A	0.82		
@ 50 VAC		A	0.68		
@ 60 VAC		A	0.57		
@ 70 VAC		A	0.50		
@ 80 VAC		A	0.45		
@ 90 VAC		A	0.40		
<b>AC Power Passing Limit - AC by-pass current damage limit (amps)</b>					
Cable powered (40 - 90 VAC) only		A	10		
<b>Environmental</b>					
Operating temperature		°F (°C)	-40 to +140 (-40 to +60)		
<b>PHYSICAL</b>					
Dimensions (L X W X H)		in (cm)	13.00 X 9.25 X 2.75 (33.0 X 23.5 X 7.0)		
Weight		lbs (kg)	7.9 (3.58)		

Notes:

1. Single station measured with all forward and reverse pads and equalizers with 0 dB values.
2. Typical operating gain is measured with equalizers in all forward locations and 0 dB pads.
3. Standard channels flat per NCTA test methods, or sloped as indicated by rated output slope.
4. Worst case as measured on matrix distortion analyzer utilizing CW carrier.
5. Worst case as measured on matrix distortion analyzer utilizing a 15.75 KHz square wave and measured to nearest dB.
6. Single station noise figure measured with 0 dB pads and equalizers. For system calculations add 1 dB for equalizer loss and 1 dB loss for diplex
7. 6 KV surge protection standard for mains powered units. For cable powered units, 6 KV surge protection requires installation of the optional plug-in sidactor (P/N 090491 or 090689-01)."550 MHz analog channel loading, 79 channels +450 MHz digital channel loading, 256 QAM at -6 dBc relative to its associated visual carrier

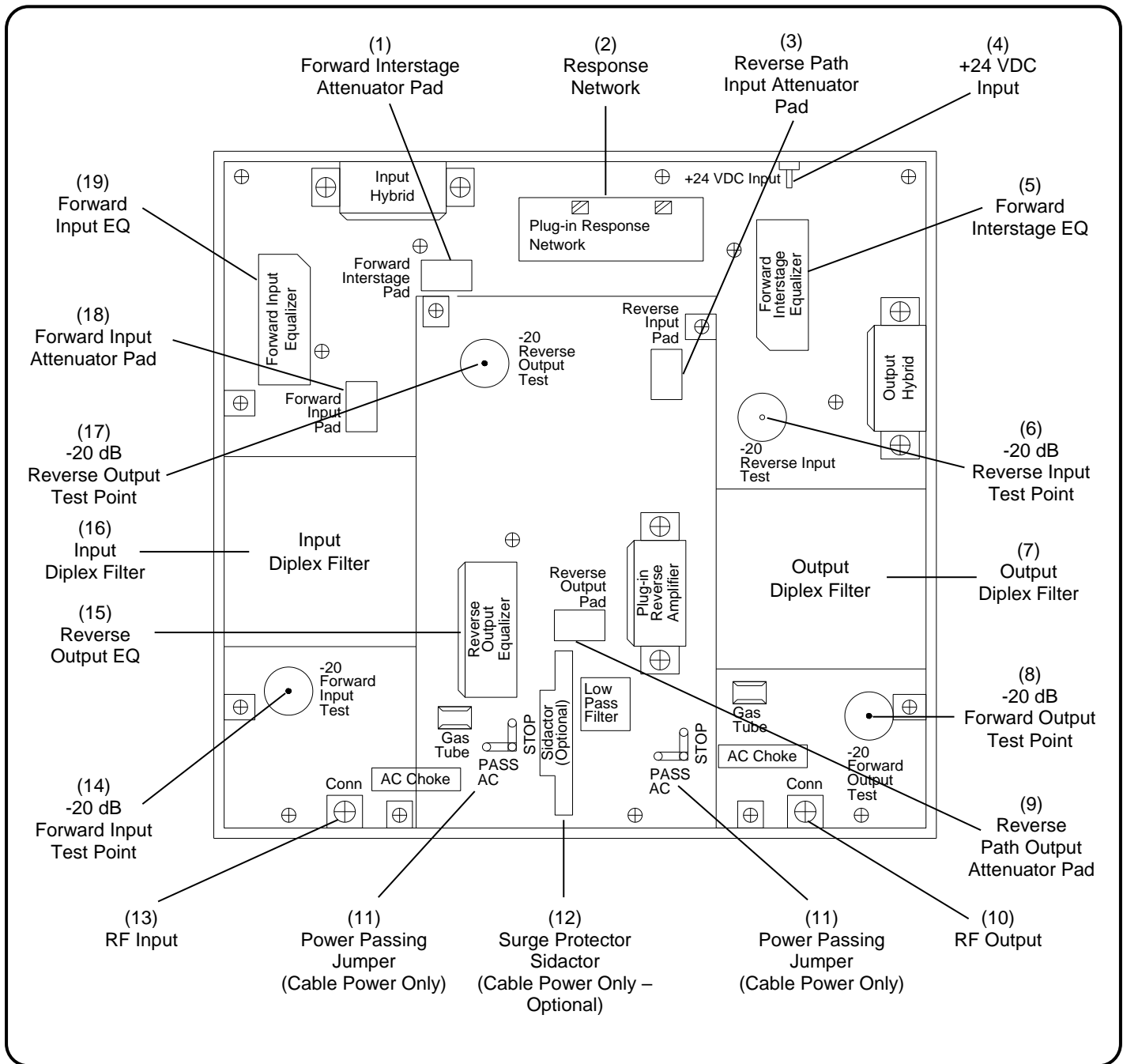


Figure 6 MultiFlex-J Internal Components

Item #	Component Name	Function
1	Forward Interstage Attenuator Pad	Compensates for gain variations in different hybrid amplifiers of the same type.
2	Response Network	Sets the output slope, compensates for filter roll-off at lower frequencies of the forward band, and flattens the amplifier's response. (Factory installed and adjusted - do not adjust in the field).
3	Reverse Path Input Attenuator Pad	Adjusts the input level to the reverse hybrid amplifier.
4	+24 VDC Input	+24 VDC is supplied from the power supply to the RF module via this connector.
5	Forward Interstage Equalizer	Adjusts output slope.
6	Reverse Input Test Point	-20 dB test point used to monitor RF reverse input signals.
7	Output Diplex Filter	Splits the band into forward and reverse frequencies for output port.
8	Forward Output Test Point	-20 dB test point used to monitor RF forward output port signals.
9	Reverse Path Output Attenuator Pad	Sets the output level of the reverse amplifier section - user installed item.
10	RF Output Port	Output port for forward path and input port for reverse path signals.
11	Power Passing Jumpers	Allows amplifier to pass 40-90 VAC cable power from the input to output ports (cable powered units only).
12	Surge Protector Sidactor	Prevents damage to circuit from power surges for cable powered units only - user installed.
13	RF Input Port	Input port for forward path and output port for reverse path signals.
14	Forward Input Test Point	-20 dB test point used to monitor RF forward input port signals.
15	Reverse Output Equalizer	Sets the output slope of the reverse amplifier section - user installed item.
16	Input Diplex Filter	Splits the band into forward and reverse frequencies for input port.
17	Reverse Output Test Point	-20 dB test point used to monitor RF reverse output port signals.
18	Forward Input Attenuator Pad	Sets the input level to the first hybrid at the correct level. Also changes the output level of the amplifier - user installed item.
19	Forward Input Equalizer	Equalizes for cable slope at the input of the amplifier - user installed item.

Table 1 MultiFlex-J Internal Component Descriptions

6. SPECIFICATIONS

These specifications are subject to change without notice. (See specification table)

7. BLOCK DIAGRAM

7.01 A MultiFlex-J block diagram is provided on Figure 7 below

8. ORDERING INFORMATION

8.01 The MultiFlex-J can be ordered in a number of variations. Each is defined by a part number which specifies a certain combination of options. See MFTJ Configuration Worksheet to determine ordering options.

8.02 For further information or assistance on the MultiFlex-J or any ACI Communications product, contact:

ACI Communications, Inc.  
 23307 66th Avenue South  
 Kent, Washington 98032  
 253-854-9802 TEL  
 253-813-1001 FAX  
 1-800-336-3526 TOLL FREE

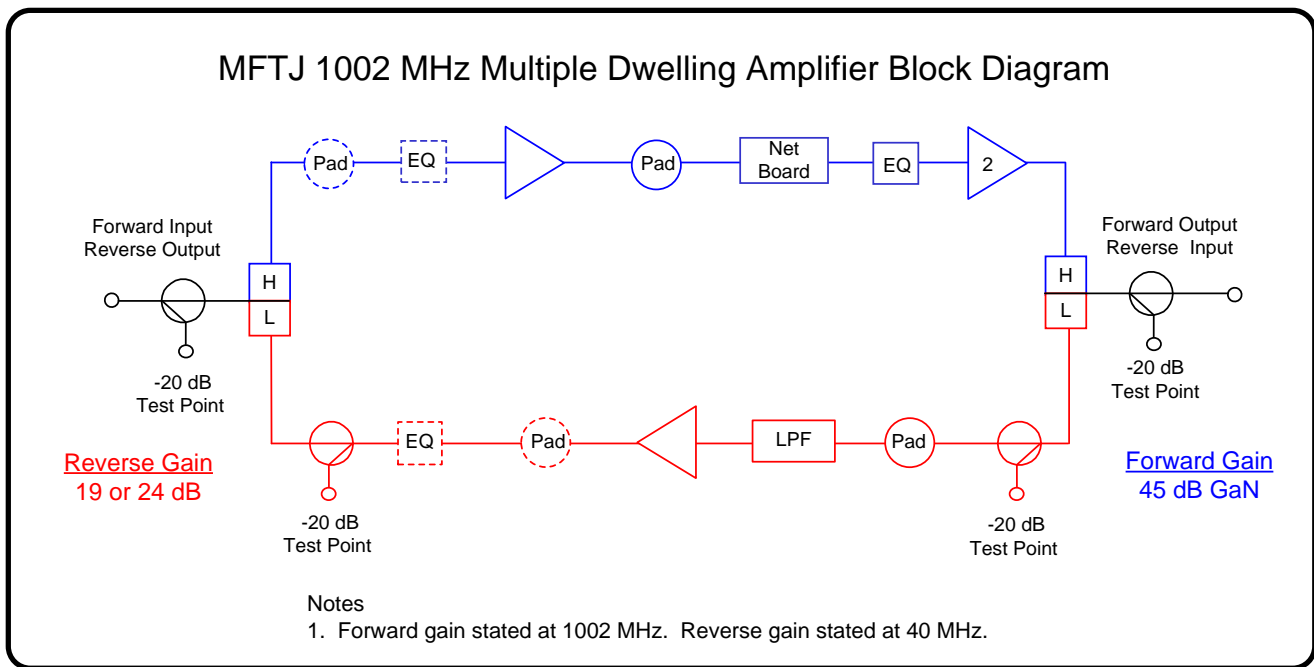


Figure 7 MultiFlex-J Block Diagram



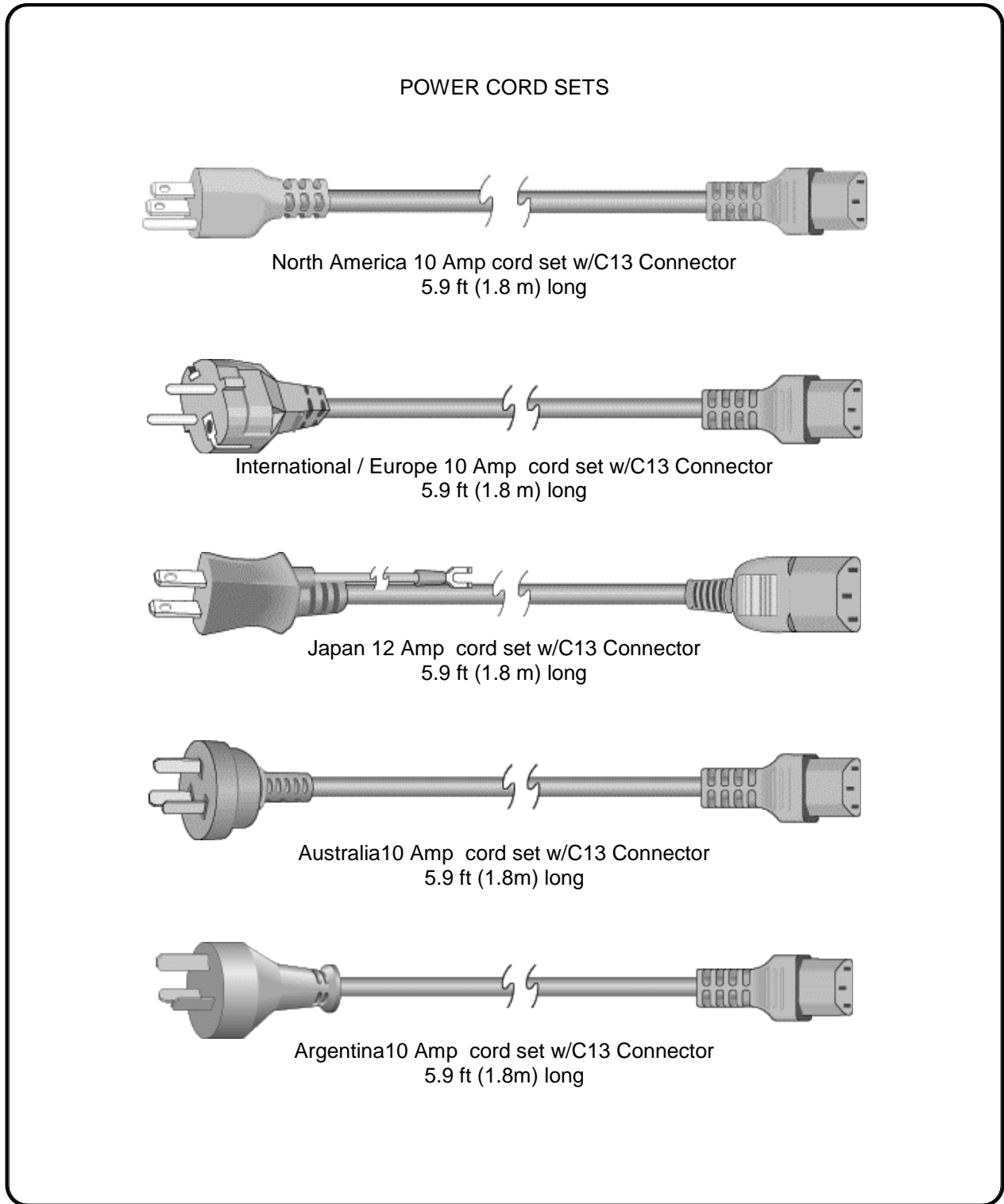


Figure 8 Power Cord Sets

## Pad Adjustable Equalizers

Forward 1002 MHz Pad Adjustable Equalizers										
Product Name	Install JXP dB Value	Nominal Insertion Loss ( dB ) at xxx MHz								Slope 54-1002
		54	72	91	550	650	750	870	1002	
AEQDA1G 1002 MHz	0	0.7	0.7	0.7	0.5	0.4	0.3	0.3	0.5	0.2
	1	2.1	1.7	1.7	0.9	0.8	0.7	0.7	1.0	1.1
	2	2.6	2.6	2.6	1.3	1.2	1.0	1.0	1.1	1.5
	3	3.7	3.6	3.6	1.8	1.6	1.4	1.3	1.2	2.5
	4	4.5	4.5	4.4	2.1	1.9	1.6	1.4	1.1	3.4
	5	5.7	5.6	5.5	2.7	2.3	2.0	1.6	1.1	4.6
	6	6.4	6.3	6.2	2.9	2.5	2.1	1.6	1.1	5.3
	7	7.4	7.3	7.2	3.3	2.8	2.3	1.7	1.0	6.4
	8	8.5	8.4	8.2	3.7	3.1	2.4	1.7	1.0	7.5
	9	9.5	9.4	9.2	4.1	3.4	2.6	1.7	1.0	8.5
	10	10.5	10.3	10.2	4.3	3.3	2.5	1.7	1.0	9.5
	11	11.5	11.3	11.2	4.6	3.6	2.6	1.7	1.0	10.5
	12	12.4	12.2	12.0	4.8	3.8	2.8	1.7	1.0	11.4
	13	13.4	13.2	12.9	5.1	4.1	3.0	1.7	0.9	12.5
	14	14.3	14.0	13.7	5.3	4.1	2.9	1.8	1.0	13.3
	15	15.3	15.0	14.6	5.6	4.3	3.0	1.8	0.9	14.4
	16	16.1	15.8	15.4	5.8	4.4	3.0	1.8	1.0	15.1
	17	17.1	16.7	16.3	5.9	4.5	3.0	1.8	0.9	16.2
	18	18.1	17.6	17.1	6.1	4.6	3.1	1.7	0.9	17.2
ACEQ1G 1002 MHz	0	0.0	0.1	0.0	0.2	0.0	0.2	0.2	0.4	-0.4
	1	0.2	0.3	0.3	0.7	0.8	0.9	1.1	1.4	-1.2
	2	0.2	0.3	0.4	1.2	1.4	1.5	1.8	2.3	-2.1
	3	0.1	0.3	0.4	1.7	1.9	2.2	2.6	3.3	-3.2
	4	0.1	0.2	0.4	2.1	2.4	2.8	3.3	4.1	-4.0
	5	0.1	0.2	0.3	2.5	3.0	3.5	4.1	5.3	-5.2
	6	0.1	0.2	0.3	2.9	3.4	4.0	4.7	5.9	-5.8
	7	0.1	0.3	0.3	3.3	4.1	4.9	5.9	7.2	-7.1
	8	0.1	0.3	0.3	3.7	4.5	5.4	6.6	8.2	-8.1
	9	0.1	0.3	0.3	4.0	5.0	6.0	7.0	9.4	-9.3

Table 2 Forward 1002 MHz Pad Adjustable Equalizers

Reverse 42 MHz Pad Adjustable Equalizers							
Product Name	Install JXP dB Value	Nominal Insertion Loss ( dB ) at xxx MHz					Slope 5-42 MHz
		5 MHz	10 MHz	35 MHz	40 MHz	42 MHz	
AREQBP42	0	2.8	3.2	2.3	1.6	0.9	1.9
	1	3.8	4.1	2.3	1.6	0.9	2.9
	2	4.7	4.9	2.4	1.7	0.9	3.8
	3	5.7	5.8	2.5	1.6	0.9	4.8
	4	6.6	6.6	2.6	1.7	0.9	5.7
	5	7.6	7.5	2.6	1.7	0.9	6.7
	6	8.5	8.3	2.7	1.7	0.9	7.6
	7	9.4	9.1	2.8	1.7	0.9	8.5
	8	10.4	9.9	2.8	1.6	0.9	9.5
	9	11.4	10.7	2.9	1.7	0.9	10.5
	10	12.3	11.4	2.9	1.7	0.9	11.4
	11	13.3	12.1	3.0	1.7	0.9	12.4
	12	14.1	12.8	3.0	1.7	0.9	13.2

Table 3 Reverse 42 MHz Pad Adjustable Equalizers

## Attenuator Pads

JXP 1.0" Tall Attenuator Pads						
Nominal Value (dB)	ACI Part Number	Nominal Insertion Loss Tolerance 5-1200 MHz		Nominal Value (dB)	ACI Part Number	Nominal Insertion Loss Tolerance 5-1200 MHz
0.0	JXP100-0.0	±0.20		10.5	JXP100-10.5	±0.30
0.5	JXP100-0.5	±0.20		11.0	JXP100-11.0	±0.30
1.0	JXP100-1.0	±0.30		11.5	JXP100-11.5	±0.30
1.5	JXP100-1.5	±0.30		12.0	JXP100-12.0	±0.30
2.0	JXP100-2.0	±0.30		12.5	JXP100-12.5	±0.30
2.5	JXP100-2.5	±0.30		13.0	JXP100-13.0	±0.30
3.0	JXP100-3.0	±0.30		13.5	JXP100-13.5	±0.30
3.5	JXP100-3.5	±0.30		14.0	JXP100-14.0	±0.30
4.0	JXP100-4.0	±0.30		14.5	JXP100-14.5	±0.30
4.5	JXP100-4.5	±0.30		15.0	JXP100-15.0	±0.30
5.0	JXP100-5.0	±0.30		15.5	JXP100-15.5	±0.30
5.5	JXP100-5.5	±0.30		16.0	JXP100-16.0	±0.30
6.0	JXP100-6.0	±0.30		16.5	JXP100-16.5	±0.30
6.5	JXP100-6.5	±0.30		17.0	JXP100-17.0	±0.30
7.0	JXP100-7.0	±0.30		17.5	JXP100-17.5	±0.30
7.5	JXP100-7.5	±0.30		18.0	JXP100-18.0	±0.30
8.0	JXP100-8.0	±0.30		18.5	JXP100-18.5	±0.30
8.5	JXP100-8.5	±0.30		19.0	JXP100-19.0	±0.30
9.0	JXP100-9.0	±0.30		19.5	JXP100-19.5	±0.30
9.5	JXP100-9.5	±0.30		20.0	JXP100-20.0	±0.30
10.0	JXP100-10.0	±0.30		75 OHM	JXP100-TERM	N / A

Table 4 JXP 1.0 " Tall Attenuator Pads

# Ordering Matrix

## MFTJ GaN Configuration Sheet

Customer: \_\_\_\_\_

Created By: \_\_\_\_\_ Order Date: \_\_\_\_\_

ORDERING MATRIX
September 22, 2017

	Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>PART NUMBER</b>		M	F	T	J		/								--	

5  BANDWIDTH  
1 = 1002 MHz

7-8  FORWARD GAIN  
45 = 45 dB @ 1002 MHz (GaN Hybrids)

9  HYBRID TECHNOLOGY / PAD EQ'S (See Note 5)  
B = GaN Power Doubling With Pad Adjustable EQ's

10  STATION SLOPE (see note 2)  
C = 0 dB @ 1002 MHz  
H = 8 dB @ 1002 MHz (standard)  
K = 13.5 dB @ 1002 MHz  
F = 15 dB @ 1002 MHz

11  FREQUENCY SPLIT (MHz)  
4 = Subsplit (42 / 53)  
5 = Subsplit (55 / 70) Future  
6 = Subsplit (65 / 85)  
7 = Subsplit (40 / 50) (see note 3)

12  REVERSE GAIN  
1 = Passive reverse (Jumper)  
6 = Hybrid reverse 19 dB gain  
7 = Hybrid reverse 24 dB gain (Standard)

13  POWERING  
1 = Cable switch mode power supply (40 - 90 VAC)  
9 = Mains switch mode power supply (90 - 240 VAC)

15  POWER CORD SETS OR CUSTOM (see note 4)  
0 = None  
1 = North America  
2 = International / Europe  
3 = Japan  
4 = Australia  
5 = Argentina  
X = Custom - (Determined by product management)

**NOTES:**

1. For proper setup it is recommended that you only use the ACI Communications test probe (P/N 100685-01 or TP-7504).
2. Contact ACI for distortion specifications other than the standard 8 dB of slope.
3. For frequency split (40 / 50) use AREQ42PB for reverse EQ.
4. Positions 14 & 15 are not used in the cable powered (40 - 90 VAC) part number.
5. The pad adjustable equalizers need to use the 1.0" Tall JXP pads (JXP100-XX.X) to allow the housing lid to close.

**ACCESSORIES:**

Required Accessories for using pad adjustable equalizers

Forward all units - reverse if active

Plug-in pad    2 Reverse    2 Forward

**Optional Accessories (Sold separately)**

For 19 dB reverse gain (P/N RTA24HY-065)

For 24 dB reverse gain (P/N RTA30HY-065)

RF 5.5" long test probe (P/N 100685-01)

RF 1.57" long test probe (P/N TP-7504)

Surge protect sidactor (P/N 090689-01)

**Equalizers & JXP Pads**

**Pad Adjustable Equalizers**

AEQDA1G - Forward Equalizer JXP Platform 0-18 dB (factory Installed)

ACEQ1G - Forward Cable Equivalent Equalizers JXP Platform 0-9 dB

AREQ42PB - Reverse Equalizers JXP Platform 0-12 dB (Factory Installed)

**JXP Style Attenuator Pads**

Attenuator Pads (JXP100-XX.X) from 0 to 20 in .5 dB increments

