

## MFTJ MultiFlex-J 1002 MHz (MDU) Amplifier With GaN Hybrids

The ACI Communications' MultiFlex-J Amplifier is specifically designed for use in vertical mount applications. It is ideal for apartment complexes or business high-rise situations. The standard MFTJ GaN configuration has 45 dB of forward gain with 8 dB of slope from 54-1002 MHz and a reverse gain of 24 dB.

### Features

- ◆ Adjustments for forward/reverse gain, input/output levels, and slope are easily accomplished with the use of plug-in JXP style attenuators pads and pad adjustable equalizers.
- ◆ Pad adjustable forward and return equalizers that only require the JXP pad value to be changed for different slopes.
- ◆ Forward slopes and levels are easily configured for 750, 870 or 1002 MHz.
- ◆ Mounting is accomplished using easily accessible external tabs allowing a variety of placements in vented lock boxes or pedestals.
- ◆ The amplifier is housed in a finned aluminum die-cast housing for superior heat dissipation.
- ◆ -20 dB directional coupler test points are provided in the forward path at both the input and output with separate test points in the reverse path.
- ◆ RF connections are made through high performance SCTE compliant "F" type cable or 5/8" standard hard-line type cable connectors allowing the flexibility to place the unit on any type of cable.

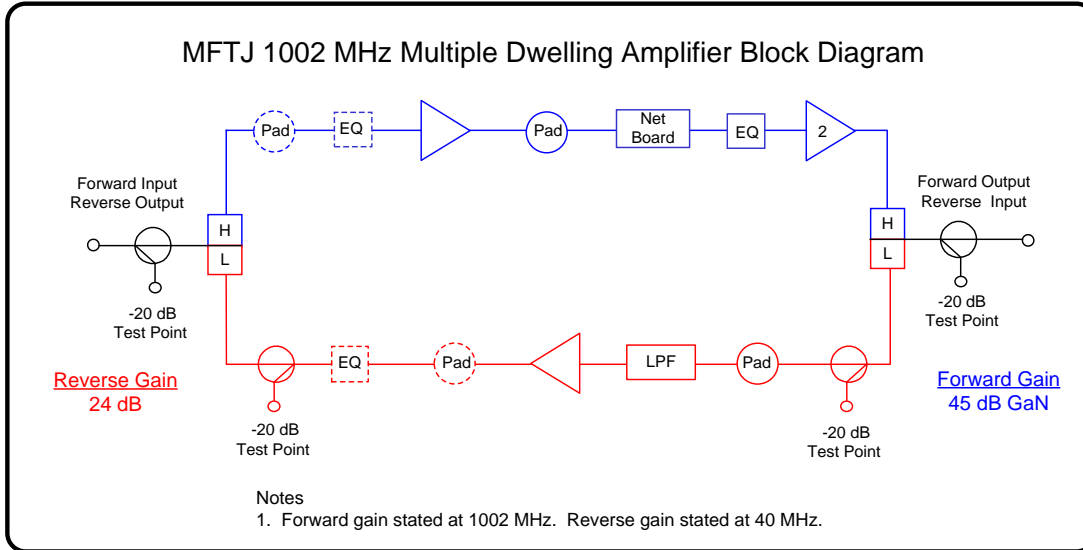
## Specifications

MFTJ 42/53 or 85/105 1002 MHz (MDU Amplifier)				
		Notes	Forward	Reverse
	Bandwidth (MHz)		Hf to 1002	5 to Lf
	Station flatness	1	± 0.5	±0.5
	Gain (dB)	2	45.0	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, 7	See Noe 7	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)
<b>Power Requirements (With Active Reverse Path)</b>				
		Units		
	Mains powered (90-240 VAC)	W		24.1 (Max)
<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 8 dB pads and equalizers. For system calculations add 1 dB for equalizer loss and 1 dB loss for diplex
7. 42/53 frequency split: 550 MHz analog channel loading, 79 channels +450 MHz digital channel loading, 256 QAM at -6 dBc relative to its associated visual carrier.  
85/105 frequency split: 550 MHz analog channel loading, 71 channels +450 MHz digital channel loading, 256 QAM at -6 dBc relative to its associated visual carrier

# Block Diagram



# Ordering Information

## MFTJ Configuration Sheet

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

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

**ORDERING MATRIX** January 14, 2021

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  
B = GaN Power Doubling With Pad Adjustable EQ's

10  STATION SLOPE (see note 2)  
H = 8 dB @ 1002 MHz

11  FREQUENCY SPLIT (MHz)  
4 = Subsplit (42/53)  
8 = Subsplit (85/105)

12  REVERSE GAIN  
7 = Hybrid reverse (24 dB gain)

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

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

**NOTES:**

- For proper setup it is recommended that you only use the ACI Communications test probe (P/N 100685-01 or TP-7504).
- The pad adjustable equalizers need to use the 1.0" Tall JXP pads (JXP100-XX.X) to allow the housing lid to close.
- The MFTJ amplifier will be shipped from the factory with the AEQDA1G forward EQ and the AREQBXX (42 or 85) reverse EQ installed. The ACEQ1G are sold separately

**ACCESSORIES:**

**Equalizers & JXP Pads**

**Pad Adjustable Equalizers**

AEQDA1G - Forward Equalizer JXP Platform 0-18 dB

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

AREQB42 - Reverse Equalizers JXP Platform 0-12 dB 5-42 MHz

AREQB85 - Reverse Equalizers JXP Platform 0-12 dB 5-85 MHz

**JXP Style Attenuator Pads**

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

**Test Probes**

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

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



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