



# DSIM® Digital Station Intelligence Manager

The ACI Digital Station Intelligence Manager (DSIM) is a next generation gain control module with comprehensive yet extremely cost effective local station diagnostics on board. In the DSIM AGC module the gain control function allows for any QAM or analog carrier from channels 52 to 142 to be selected as pilot or can be set to operate in the thermal AGC mode with 9, 18 and 27 dB of cable.

The DSIM controller is used to set the DSIM module's pilot channel and to change into the different operational modes during the amplifier setup. The bi-colored blue and red LED indicator's blinking patterns will denote the current optional mode setting.

The DSIM AGC modules are simple to use, reliable, power efficient, cost effective, and an augmentation to the OSP maintenance team's maximum uptime program. The ACI DSIM is the perfect choice for coaxial plant life extensions for the next decade of all-digital services.

## Automatic Gain Controllers from ACI



**DSIM-A**  
Augat®-ACI  
SDA and ALX



**DSIM-CG**  
Philips®/C-Cor®  
6-LE97/98 LE/ Spectrum 2000



**DSIM-MV**  
Philips®/Magnavox®  
Diamond Type 1, 2, 3



**DSIM-GI**  
Motorola®, BLE, MB, BT  
Post 750-DH 6-pin



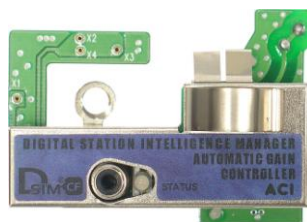
**DSIM-JD**  
Jerrold® JLX Line  
Extender 750-D/H 5-pin



**DSIM-SG**  
Cisco®/Scientific  
Atlanta® GainMaker



**DSIM-CC**  
C-Cor®  
Flexnet E7 series LE



**DSIM-CF**  
C-Cor®  
Flexnet FNT & FNB 900



**DSIM-AF**  
Antec®  
FTMB-75 Series

## ACI DSIM Features:

- The DSIM-A is a direct drop-in replacement for conventional analog AGC module for ACI's SDA series amplifiers.
- The DSIM-GI is a direct drop-in replacement for conventional analog AGC module for Motorola® /GI BLE, MB and BT amplifiers.
- The DSIM-SG is a direct drop-in replacement for conventional analog AGC module for Scientific Atlanta® GainMaker® amplifiers.
- The DSIM-MV is a direct drop-in replacement for conventional analog AGC module for Phillips®/Magnavox® GNA and TNA amplifiers.
- The DSIM-JD is a direct drop-in replacement for conventional analog AGC module for Jerold® JLX Line Extender amplifiers.
- The DSIM-CG is a direct drop-in replacement for conventional analog AGC module for Philips®/C-Cor® 6-LE97/98 LE or Spectrum 2000 Line Extender amplifiers.
- The DSIM-CC is a direct drop-in replacement for conventional analog AGC module for C-Cor® Flexnet E7 series LE Line Extender amplifiers.
- The DSIM-CF is a direct drop-in replacement for conventional analog AGC module for C-Cor® Flexnet FNT & FNB 900 amplifiers.
- The DSIM-AF is a direct drop-in replacement for conventional analog AGC module for Antec® FTMB-75 Series amplifiers.
- DSIM is self-calibrating and auto aligning. Proper control loop levels are set internally by microcontroller. The tech is notified by LED indicator when alignment is complete
- Up to 40 days of data can be downloaded with either Windows, Apple or Android based products and contains enough detail and ease of readability to take the guesswork out of analysis.
- Pilot frequency settings can be reprogrammed as needed with the use of the key coded controller
- Pilot modulation types: QAM, NTSC analog or CW (set by controller)
- 9 dB wide gain control range and 6 MHz center frequency bandwidth
- For aerial installations the DSIM may also be set into the thermal AGC mode with cable sections of 9, 18 and 27 dB.
- The on-board intelligence of the DSIM keeps the station gain on target even during abnormal events, such as loss of pilot and upon return from power outages. In the event that the pilot is lost the DSIM will change into the thermal AGC mode, and then once the pilot is recovered will automatically change back into the SPAGC mode of operation.
- The DSIM AGC module furnishes the outside plant maintenance team with an on-board diagnostic tool set unprecedented in the industry. The DSIM status LED gives maintenance techs an immediate visual indication of the unit's:
  - AC power on (any status light)
  - 24 volt line status (low, high, ripple high)
  - Pilot tracking status (pilot in range, pilot lost)
  - Station temperature status (normal, hot)
  - Operational mode (MGC, AGC, or TGC)
  - Pilot channel number in SPAGC mode
  - Upfront dB of cable setting in TGC mode

**Specifications: DSIM-A**  
**Augat® ACI SDA and ALX Amplifiers**

<b>Digital Station Intelligence Manager (DSIM-A)</b>				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
<b>RF Specifications</b>				
<b>AGC mode operation</b>				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (Default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	9 (Max.)	
Gain Control Accuracy		dB	± 0.5	
Nominal Insertion loss	Loss @ 1002 MHz	dB	6.25	At room temp.
<b>TGC mode operation</b>				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
<b>General Specifications</b>				
<b>Operating Power Supply</b>				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	18 (Min.), 28 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	86.0 (Max)	
<b>Environmental and Mechanical</b>				
Operating Temperature		°F (°C)	-40 to +140 (-40 to +60)	
Storage Temp.		°F (°C)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	4.4 X 1.18 X 0.79 (112 x 30 x 20)	

**Specifications: DSIM-GI**  
**Motorola® GI, BT, MB and BLE (Post 750 D/H with 6 pins) Amplifiers**

<b>Digital Station Intelligence Manager (DSIM-GI)</b>				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
<b>RF Specifications</b>				
<b>AGC mode operation</b>				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (Default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	9 (Max.)	
Gain Control Accuracy		dB	± 0.5	
<b>TGC mode operation</b>				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
<b>General Specifications</b>				
<b>Operating Power Supply</b>				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	18 (Min.), 28 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	71.0 (Max)	
<b>Environmental and Mechanical</b>				
Operating Temperature		°F (°C)	-40 to +140 (-40 to +60)	
Storage Temp.		°F (°C)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	4.6 X 1.07 X 0.69 (116 x 27.2 x 17.5)	

**Specifications: DSIM-JD**  
**Jerrold® J LX Line Extenders and MB's (750 D/H with 5 pins) Amplifiers**

<b>Digital Station Intelligence Manager (DSIM-JD)</b>				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
<b>RF Specifications</b>				
<b>AGC mode operation</b>				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (Default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	9 (Max.)	
Gain Control Accuracy		dB	± 0.5	
<b>TGC mode operation</b>				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
<b>General Specifications</b>				
<b>Operating Power Supply</b>				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	18 (Min.), 28 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	72.0 (Max)	
<b>Environmental and Mechanical</b>				
Operating Temperature		°F (°C)	-40 to +140 (-40 to +60)	
Storage Temp.		°F (°C)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	4.6 X 1.07 X 0.69 (116 x 27.2 x 17.5)	

**Specifications: DSIM-MV**  
**Magnavox® GNA, TNA, Diamond Type 1, 2 and 3 Amplifiers**

<b>Digital Station Intelligence Manager (DSIM-MV)</b>				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
<b>RF Specifications</b>				
<b>AGC mode operation</b>				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (Default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	9 (Max.)	
Gain Control Accuracy		dB	± 0.5	
Nominal Insertion loss	@ 750 / 870 /1002 MHz	dB	1.0 / 1.1 / 1.2	At room temp.
<b>TGC mode operation</b>				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
<b>General Specifications</b>				
<b>Operating Power Supply</b>				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	18 (Min.), 28 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	72.0 (Max)	
<b>Environmental and Mechanical</b>				
Operating Temperature		°F (°C)	-40 to +140 (-40 to +60)	
Storage Temp.		°F (°C)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	2.0 X 2.9 X 0.53 (50.8 x 73.7 x 13.5)	

Specifications: DSIM-SG  
Cisco®/Scientific Atlanta GainMaker® Amplifiers

Digital Station Intelligence Manager (DSIM-SG)				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
<b>RF Specifications</b>				
<b>AGC mode operation</b>				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (Default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	10 (Max.)	
Gain Control Accuracy		dB	± 0.5	
<b>TGC mode operation</b>				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
<b>General Specifications</b>				
<b>Operating Power Supply</b>				
Input Voltage	DC	Volt	15	Typical
Input Voltage range	DC	Volt	14 (Min.), 16 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	110.0 (Max)	
<b>Environmental and Mechanical</b>				
Operating Temperature		°F (°C)	-40 to +140 (-40 to +60)	
Storage Temp.		°F (°C)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	2.0 X 1.0 X 0.94 (50.8 x 25.4 x 23.9)	

**Specifications: DSIM-CG**  
**Philips®/C-Cor® 6-LE97/98 LE or Spectrum 2000 Line Extender Amplifiers**

<b>Digital Station Intelligence Manager (DSIM-CG)</b>				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
<b>RF Specifications</b>				
<b>AGC mode operation</b>				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (Default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	11 (Max.)	
Gain Control Accuracy		dB	± 0.5	
<b>TGC mode operation</b>				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
<b>General Specifications</b>				
<b>Operating Power Supply</b>				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	22 (Min.), 26 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	47.0 (Max)	
<b>Environmental and Mechanical</b>				
Operating Temperature		°F (°C)	-40 to +140 (-40 to +60)	
Storage Temp.		°F (°C)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	1.3 X 1.45 X 4.25 (76.2 x 36.6 x 108.0)	



Specifications: DSIM-CC  
 C-Cor® Flexnet E7 series LE Line Extender Amplifiers

Digital Station Intelligence Manager (DSIM-CC)				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
<b>RF Specifications</b>				
<b>AGC mode operation</b>				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (Default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	10 (Max.)	
Gain Control Accuracy		dB	± 0.5	
<b>TGC mode operation</b>				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
<b>General Specifications</b>				
<b>Operating Power Supply</b>				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	22 (Min.), 26 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	43.0 (Max)	
<b>Environmental and Mechanical</b>				
Operating Temperature		°F (°C)	-40 to +140 (-40 to +60)	
Storage Temp.		°F (°C)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	0.90 X 1.14 X 2.10 (22.9 x 29.0 x 53.3)	

Specifications: DSIM-CF  
 C-Cor® Flexnet FNT & FNB 900 Amplifiers

Digital Station Intelligence Manager (DSIM-CF)				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
<b>RF Specifications</b>				
<b>AGC mode operation</b>				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (Default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	10 (Max.)	
Gain Control Accuracy		dB	± 0.5	
<b>TGC mode operation</b>				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
<b>General Specifications</b>				
<b>Operating Power Supply</b>				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	22 (Min.), 26 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	43.0 (Max)	
<b>Environmental and Mechanical</b>				
Operating Temperature		°F (°C)	-40 to +140 (-40 to +60)	
Storage Temp.		°F (°C)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	1.0 X 0.97 X 2.35 (25.4 x 24.6 x 59.7)	

**Specifications: DSIM-AF**  
**Antec® FTMB-75 Series amplifiers.**

<b>Digital Station Intelligence Manager (DSIM-AF)</b>				
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
<b>RF Specifications</b>				
<b>AGC mode operation</b>				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (Default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	10 (Max.)	
Gain Control Accuracy		dB	± 0.5	
<b>TGC mode operation</b>				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
<b>General Specifications</b>				
<b>Operating Power Supply</b>				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	22 (Min.), 26 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	43.0 (Max)	
<b>Environmental and Mechanical</b>				
Operating Temperature		°F (°C)	-40 to +140 (-40 to +60)	
Storage Temp.		°F (°C)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	0.75 X 2.28 X 2.56 (19.1 x 57.9 x 65.0)	

## DSIM Amplifier Reference Vendor PN

DSIM-GI		
Amplifier Part Number	Description	Amp Manufacturer
BLE-75SH	Line Extender (LE) 750MHz	General Instrument
MB-75SH/15	Dual Hybrid Power Doubling Mini-Bridger (750MHz)	Next Level
MB-75SH	Dual Hybrid Power Doubling Mini-Bridger (750MHz)	General Instruments
MBS-75SH		
MB-75JH		
MBS-75JH		
BT-75-SH	Broadband Telecommunication Amplifier (Trunk) 750MHz	General Instruments
BT-75-JH		
BLE87	Line Extender (LE) 870MHz	Motorola
MB87	Dual Output Minibridger 870MHz	Motorola
BT87	Broadband Telecommunication Amplifier (Trunk) 870MHz	Motorola
BLE100	Line Extender (LE) 1002MHz	Motorola
BT100	Broadband Telecommunication Amplifier (Trunk) 1002MHz	Motorola
MB100	Minibridger 1002MHz	Motorola
DSIM-MV		
Amplifier Part Number	Description	Amp Manufacturer
6-GNA197	D Series Global Network Amplifiers (1 post Amp) 750MHz	Philips/Magnavox
6-GNA297	D Series Global Network Amplifiers (2 post Amp) 750MHz	
6-GNA397	D Series Global Network Amplifiers (3 post Amp) 750MHz	
6-GNA198	Spectrum 2000 Global Network Amplifiers (1 post Amp) 862MHz	Philips/Magnavox
6-GNA298	Spectrum 2000 Global Network Amplifiers (2 post Amp) 862MHz	
6-GNA398	Spectrum 2000 Global Network Amplifiers (3 post Amp) 862MHz	
6-TNA297	Trunk Network Amplifier 750MHz	Philips/Magnavox/ccor
6-TNA397	Trunk Network Amplifier 750MHz	
6-T3A398	Type 1 Diamond Line Amplifier 870MHz	Philips/Magnavox/ccor
6-G3A298	Type 2 Diamond Line Amplifier 870MHz	
8-G4A298	Type 2 Diamond Line Amplifier GaAs 870MHz	
DSIM-SG		
Amplifier Part Number	Description	Amp Manufacturer
7006936	GainMaker High Gain Dual System Amplifier 1002MHz	SAC/Cisco
7006586		
7014161		
7014162		
7006938	GainMaker High Gain Balanced Triple Amplifier 1002MHz	SAC/Cisco
7006942		
7014163		
7014164		
7006939	GainMaker Unbalanced Triple System Amplifier 1002MHz	SAC/Cisco
7006943		
7006937	GainMaker Low Gain Dual System Amplifier 1002MHz	SAC/Cisco
7006941		
7006952	GainMaker Line Extender 1002MHz	SAC/Cisco
7006590		

<b>DSIM-JD</b>		
<b>Amplifier Part Number</b>	<b>Description</b>	<b>Amp Manufacturer</b>
JLX-7-750P/LC/40	Line Extender (LE) 750MHz	Jerrold
MB-750D-H/40 (H-Type)	Dual Hybrid Power Doubling Mini-Bridger 750MHz	Jerrold
MB-750D-H/40	Dual Hybrid Power Doubling Mini-Bridger 750MHz	General Instruments
<b>DSIM-CC</b>		
<b>Amplifier Part Number</b>	<b>Description</b>	<b>Amp Manufacturer</b>
Flexnet E7 series LE	Line Extender (LE) 750MHz with Linear power supply	C-Cor
<b>DSIM-CF</b>		
<b>Amplifier Part Number</b>	<b>Description</b>	<b>Amp Manufacturer</b>
Flexnet FNT 900 series	Trunk Amplifier	C-Cor
Flexnet FNB 900 series	Bridger Amplifier	C-Cor
<b>DSIM-CG</b>		
<b>Amplifier Part Number</b>	<b>Description</b>	<b>Amp Manufacturer</b>
6-LE97/98 LE	Line Extender (LE)	Philips
Spectrum 2000	Line Extender (LE)	C-Cor
<b>DSIM-AF</b>		
<b>Amplifier Part Number</b>	<b>Description</b>	<b>Amp Manufacturer</b>
FTMB-75 Series	Mini-Bridger Amplifier	Antec

## ACI DSIM Accessories:



### DSIM Controller

The universal DSIM controller is a smart tweaker-tool that is used to set the pilot channel or thermal AGC dB cable settings in the DSIM AGC modules. The bi-colored blue and red LED indicator's blinking patterns denote the current operational mode setting.



### DSIMC Software

The DSIMC software program allows the use a laptop computer to access the extended DSIM setup parameters and analysis of real time or the stored data in the DSIM AGC module. ACI offers a cable assembly P/N 240327-01 that makes the connection from the laptop to the DSIM module.



### DSIM Tablet and Bluetooth Dongle

The tablet or smart phone Android or iOS Apple based software applications allows customers extended access to the internal setup parameters and analysis of real time or data stored in the DSIM AGC module via a blue tooth wireless connection.



### DSIM Interface Cable

The DSIM-GI, SG, JD, MV, CC, CF and AF modules use an interface cable assembly P/N 240330-01 to make the connection from the DSIM AGC module to the controller, dongle, or DSIM laptop cable assembly.

# ACI

ACI Communications, Inc.  
23307 66th Avenue South  
Kent, WA 98032

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