

Crystal Vision

3G/HD/SD Distribution Amplifiers

Crystal Vision offers a choice of six distribution amplifiers for the distribution of 3Gb/s, HD or SD sources – to suit all budgets and applications. Ideal for distributing signals in multi-standard environments or for those planning for the future, the selectable options include relocking or non-relocking, five or eleven outputs – and even signal reporting.

For those engineers who are looking for excellent jitter performance on long cable inputs, there are four relocking distribution amplifiers available. The 3GDA105R and 3GDA105C both give five relocked outputs and the 3GDA111R and 3GDA111C eleven relocked outputs. The 3GDA105R and 3GDA111R are ideal for those seeking information about their signal, especially in big systems, and provide remote monitoring of input present and 3G/HD or SD signal through either the Statesman PC software or SNMP, allowing alarms to be set on loss of input and change in signal type.

For applications that call for lower cost distribution, the 3GDA105N gives five non-relocked outputs and the 3GDA111N eleven non-relocked outputs.

The distribution amplifiers can handle all data rates up to 3GHz and easily meet the -10dB input return loss that must be achieved for 3GHz, along with the -15dB input return loss required for 1.5GHz. The relocking DAs have auto detection of input and will recognise whether the standard is 3G/HD or SD and switch the output slew rate automatically, in addition to illuminating the appropriate LED. On the 3GDA105N and 3GDA111N a board edge HD/SD switch is used to manually select the output drivers' slew rate to match the input signal. The six DAs will always choose an appropriate cable equaliser for the signal type, ensuring an SD cable length in excess of 250m with Belden 8281 or equivalent, and up to 140m for HD and 80m for 3Gb/s with Belden 1694A – with no data errors.

The 3G/HD/SD distribution amplifiers incorporate Crystal Vision's usual space-saving benefits and are housed in the company's standard frames, meaning they can be easily integrated with any other products from the range. The 3GDA105R, 3GDA105C and 3GDA105N are single height 100mm x 266mm modules which sit in one frame slot allowing up to 12 DAs in 2U, and use the RM41 frame rear module to access the one input and five outputs. The 3GDA111R, 3GDA111C and 3GDA111N are 'double decker' 100mm x 266mm modules which fill two frame slots, allowing up to six DAs in 2U. To access the one input and eleven outputs, they use the RM41 and RM34 rear modules together.



3GDA105R

Five relocked outputs with signal reporting



3GDA111R

Eleven relocked outputs with signal reporting



3GDA105C

Five relocked outputs



3GDA111C

Eleven relocked outputs



3GDA105N

Five non-relocked outputs



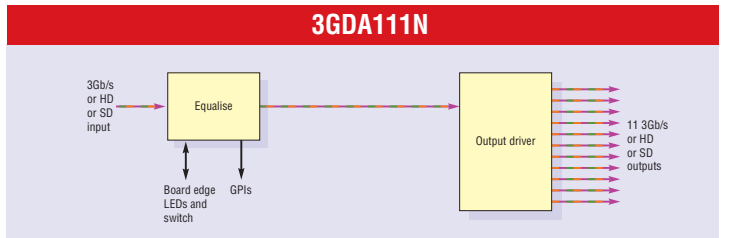
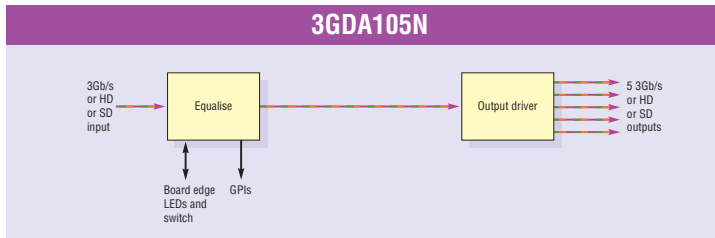
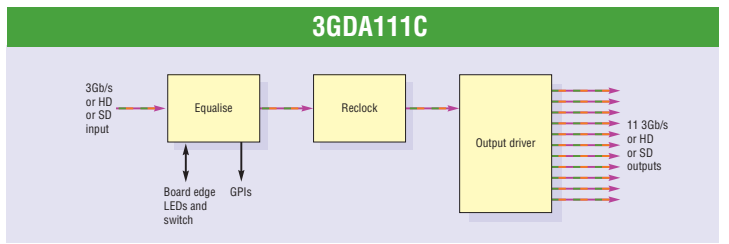
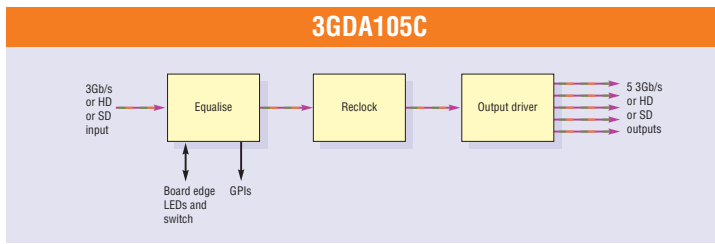
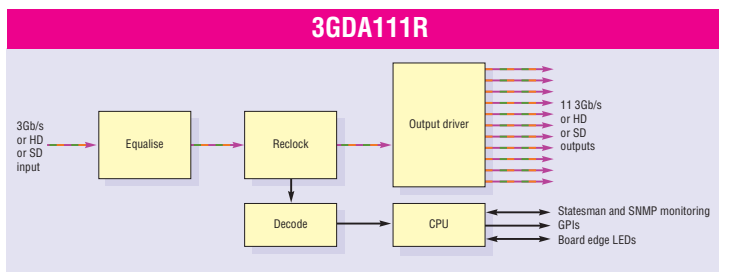
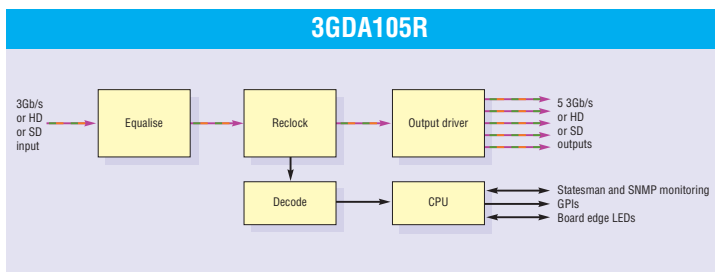
3GDA111N

Eleven non-relocked outputs

Choosing the right DA for you

FEATURE	3GDA105R	3GDA111R	3GDA105C	3GDA111C	3GDA105N	3GDA111N
Number of outputs	5	11	5	11	5	11
Number of boards fitting in 2U	12	6	12	6	12	6
Relocking	●	●	●	●		
Non-relocking					●	●
Suitable for 3Gb/s	●	●	●	●	●	●
Suitable for HD	●	●	●	●	●	●
Suitable for SD	●	●	●	●	●	●
Auto slew rate switching	●	●	●	●		
Statesman and SNMP monitoring	●	●				
Rear modules used	RM41	RM41 + RM34	RM41	RM41 + RM34	RM41	RM41 + RM34

- Equally suited to distributing 3Gb/s, HD or SD signals – and no need to rush out to replace them when you upgrade
- Find the perfect one for you: six versions to suit all applications and budgets
- Select from high performance or lower cost distribution: choice of relocking or non-relocking
- Get multiple copies of your signals, with choice of five or eleven outputs
- Avoid data errors with high quality cable equalisation
- No need for manual adjustments: auto detection of input on 3GDA105R, 3GDA111R, 3GDA105C and 3GDA111C switches output slew rate automatically
- Ideal for big systems: remote monitoring of input present and signal type on 3GDA105R and 3GDA111R using Statesman PC software or SNMP
- LED indication of input and power supplies present
- Space-saving: 100mm x 266mm module allows 12 3GDA105R/C/N in 2U (24 in 4U, six in 1U and two in desk top box), while 'double decker' module allows six 3GDA111R/C/N in 2U (12 in 4U, three in 1U and one in desk top box)



SPECIFICATION

MECHANICAL

3GDA105R/C/N: Standard Crystal Vision modules 266mm x 100mm
 3GDA111R/C/N: 'Double decker' modules 266mm x 100mm (use two frame slots)
 Weight: 140g (3GDA105R/C/N); 200g (3GDA111R/C/N)
 Power consumption: 3GDA105R 5.6 Watts; 3GDA111R 8 Watts; 3GDA105C 3.2 Watts; 3GDA111C 5.6 Watts; 3GDA105N 2.8 Watts; 3GDA111N 5.2 Watts

VIDEO INPUTS

One 3Gb/s or HD or SD input
 270Mb/s or 1.5Gb/s or 3Gb/s serial compliant to EBU 3267-E, SMPTE 259M, SMPTE 292M and SMPTE 424M
 3Gb/s cable equalisation up to 80m using Belden 1694A. HD cable equalisation up to 140m with

Belden 1694A or equivalent (approx. 100m with Belden 8281). SD cable equalisation >250m Belden 8281 or equivalent

Input return loss: -15dB for 50MHz to 1.5GHz and -10dB for 1.5GHz to 3GHz

Auto detection of input on 3GDA105R, 3GDA111R, 3GDA105C and 3GDA111C – recognises whether the standard is 3G/HD or SD and switches the output slew rate automatically

VIDEO OUTPUTS

3GDA105R and 3GDA105C: Five reclocked 3Gb/s, HD or SD outputs using RM41 frame rear module
 3GDA105N: Five non-reclocked 3Gb/s, HD or SD outputs using RM41 rear module
 3GDA111R and 3GDA111C: Eleven reclocked 3Gb/s, HD or SD outputs using RM41 and RM34 rear modules together
 3GDA111N: Eleven non-reclocked 3Gb/s, HD or SD

outputs using RM41 and RM34 rear modules together
 270Mb/s or 1.5Gb/s or 3Gb/s serial compliant to EBU 3267-E, SMPTE 259M, SMPTE 292M and SMPTE 424M. Output follows the input format

DELAY THROUGH BOARD

50ns max

LED INDICATION OF:

Input present
 Power supplies okay

GPI OUTPUT LEVELS

Electrically: Open collector transistors 30V, 270 ohm current limit resistors. Pulled up to +5V through 6800 ohm

GPI OUTPUTS

Two GPI outputs

Input present
 Power supplies okay

LOCAL CONTROL

3GDA105C and 3GDA111C: DIP switch on the board edge can be set to either auto detect input (up position) or to force output drivers' slew rate (down position)

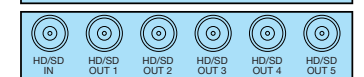
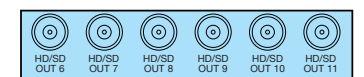
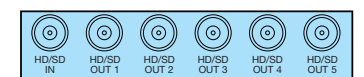
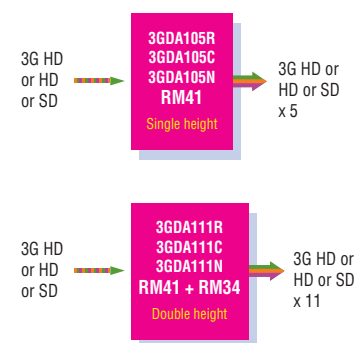
3GDA105N and 3GDA111N: Manual SD/HD switch on the board edge to select the output drivers' slew rate to match the input signal

REMOTE MONITORING (3GDA105R AND 3GDA111R ONLY)

Statesman allows monitoring from any PC on a network
 SNMP monitoring available as a frame option
 Monitoring of input present and 3G/HD or SD signal

ORDERING INFORMATION

3GDA105R	3G/HD/SD reclocking distribution amplifier with five outputs and signal reporting
3GDA111R	3G/HD/SD reclocking distribution amplifier with eleven outputs and signal reporting
3GDA105C	3G/HD/SD reclocking distribution amplifier with five outputs
3GDA111C	3G/HD/SD reclocking distribution amplifier with eleven outputs
3GDA105N	3G/HD/SD non-reclocking distribution amplifier with five outputs
3GDA111N	3G/HD/SD non-reclocking distribution amplifier with eleven outputs
Indigo 4	4U frame with passive front panel for up to 24 Crystal Vision modules
Indigo 4SE	4U frame with passive front panel fitted with Statesman CPU for up to 24 Crystal Vision modules
Indigo 2	2U frame with passive front panel for up to 12 Crystal Vision modules
Indigo 2AE	2U frame with active front panel for up to 12 Crystal Vision modules
Indigo 2SE	2U frame with passive front panel fitted with Statesman CPU for up to 12 Crystal Vision modules
Indigo 1	1U frame with passive front panel for up to six Crystal Vision modules. Power supply redundancy available with Indigo 1-DP
Indigo 1AE	1U frame with active front panel for up to six Crystal Vision modules. Power supply redundancy available with Indigo 1AE-DP
Indigo 1SE	1U frame with passive front panel fitted with Statesman CPU for up to six Crystal Vision modules. Power supply redundancy available with Indigo 1SE-DP
Indigo DT	Desk top box with passive front panel for up to two Crystal Vision modules
Indigo DTAE	Desk top box with active front panel for up to two Crystal Vision modules
Indigo DTSE	Desk top box with passive front panel fitted with Statesman CPU for up to two Crystal Vision modules
RM41	Single slot frame rear module used for 3GDA105R, 3GDA105C and 3GDA105N. Allows maximum number of boards in frame (24 in 4U, 12 in 2U, six in 1U, two in desk top box). Gives access to one 3Gb/s, HD or SD input and five 3Gb/s, HD or SD outputs
RM41 + RM34	Two single slot frame rear modules used together for 3GDA111R, 3GDA111C and 3GDA111N. Allows 12 boards in 4U, six in 2U, three in 1U and one in desk top box. Gives access to one 3Gb/s, HD or SD input and eleven 3Gb/s, HD or SD outputs
Statesman	PC Control System
SNMP	SNMP monitoring and control



Performance and features are subject to change. Figures given are typical measured values. 3GDA0210