

TABLE OF CONTENTS

1. OVERVIEW.....	1
1.1. BLOCK DIAGRAMS	2
1.2. TYPICAL APPLICATION DIAGRAM	3
2. INSTALLATION.....	3
3. SPECIFICATIONS.....	5
3.1. RF INPUT/OUTPUT	5
3.2. PHYSICAL	5

Figures

Figure 1: Front View of SCRF3-64-1x2 chassis.....	1
Figure 2: Rear View of SCRF3-64-1x2 chassis	1
Figure 3: 1x2 Splitter / 2x1 Combiner.....	2
Figure 4: 1x4 Splitter / 4x1 Combiner.....	2
Figure 5: 1x8 Splitter / 8x1 Combiner.....	2
Figure 6: 128x128 L band matrix using XRF6 64x64 routers and SCRF3-64-1x2 modules.	3
Figure 7: Front Panel of SCRF3-64-1x2 chassis	4
Figure 8: Rear Panel of SCRF3-64-1x2 chassis	4



REVISION HISTORY

<u>REVISION</u>	<u>DESCRIPTION</u>	<u>DATE</u>
0.0	Preliminary Version	Jun 06

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1. OVERVIEW

The SCRF series radio frequency (RF) passive splitters and combiners provide an economical method of splitting or combining a number of RF signals in ratios of 1:2, 1:4 or 1:8. They provide low insertion loss, high return loss, flat frequency response and high isolation between channels. They can be used for signal distribution in a RF facility, or used to expand the matrix size of Evertz Microsystems XRF1 (16x16) and XRF6 (64x64) L band routers.



Figure 1: Front View of SCRF3-64-1x2 chassis



Figure 2: Rear View of SCRF3-64-1x2 chassis

The SCRF products feature RF coax connectors on both sides of the chassis for mounting on either the front or back of the rack for ease of installation and troubleshooting. They also feature an input monitoring port for troubleshooting and diagnostics in the RF plant.

The SCRF1 series is housed in a 1RU frame and the SCRF3 series are housed in a 3RU frame. RF specifications are dependent on the split / combine ratio. The list below includes all possible options of the SCRF splitter / combiners.

SCRF1 SERIES:

SCRF1-16-1x2	16-channel 1x2 splitter / 2x1 combiner
SCRF1-8-1x4	8-channel 1x4 splitter / 4x1 combiner
SCRF1-4-1x8	4-channel 1x8 splitter / 8x1 combiner

SCRF3 SERIES:

SCRF3-64-1x2	64-channel 1x2 splitter / 2x1 combiner
SCRF3-32-1x4	32-channel 1x4 splitter / 4x1 combiner
SCRF3-16-1x8	16-channel 1x8 splitter / 8x1 combiner

1.1. BLOCK DIAGRAMS

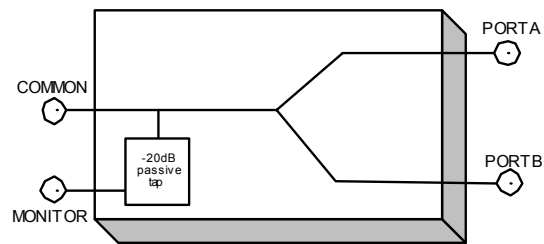


Figure 3: 1x2 Splitter / 2x1 Combiner

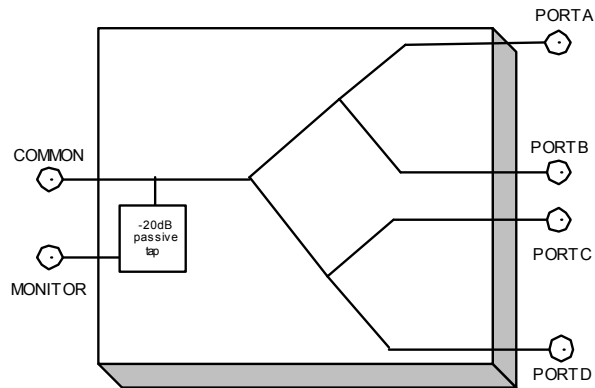


Figure 4: 1x4 Splitter / 4x1 Combiner

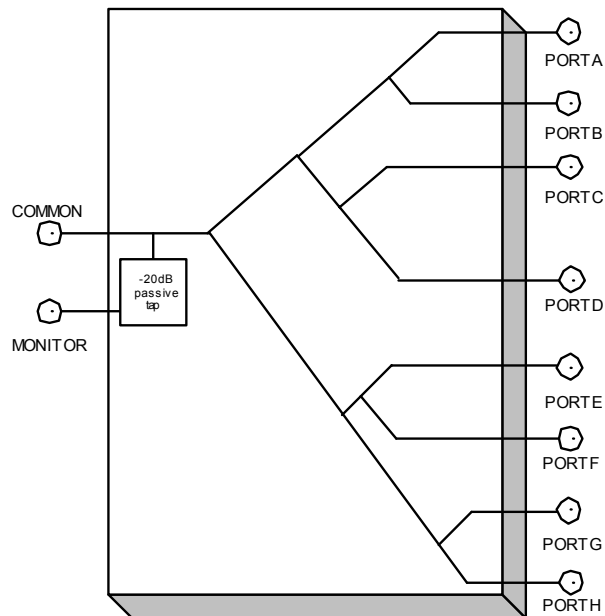


Figure 5: 1x8 Splitter / 8x1 Combiner

1.2. TYPICAL APPLICATION DIAGRAM

Figure 1 illustrates the use of four SCRF3-64-1x2 modules to achieve a 128x128 router using four XRF6 L band routers. On the input side, the SCRF functions as a splitter and as a combiner on the output side, allowing non-blocking routing of any input to all outputs.

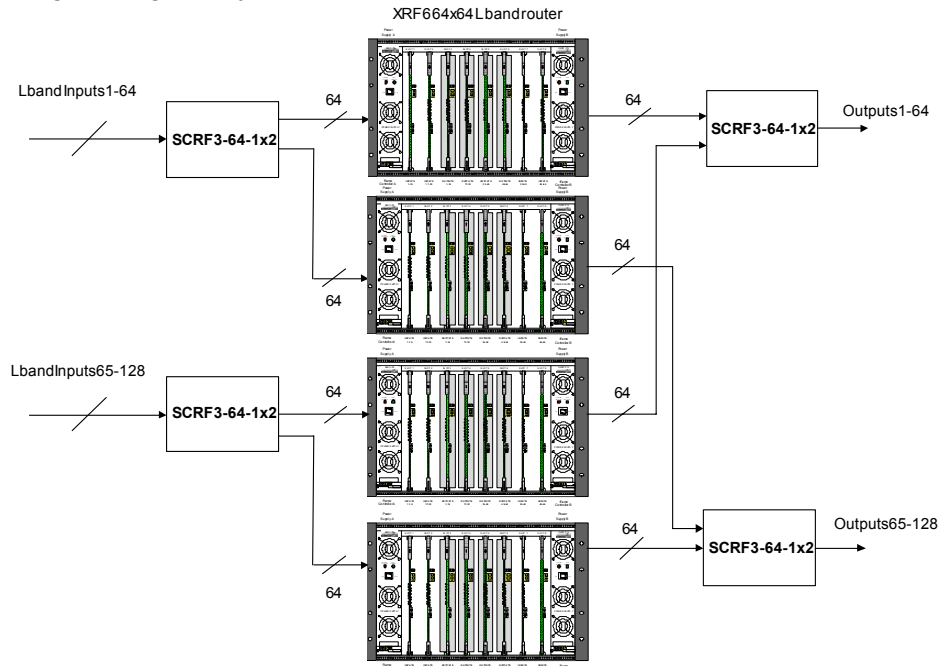


Figure 6: 128x128 L band matrix using XRF6 64x64 routers and SCRF3-64-1x2 modules.

2. INSTALLATION

The SCRF splitters and combiners have RF coaxial connectors on the front and back side of the chassis. The input (common) and monitoring ports are on the front of the panel. Output connectors are located on the rear side of the chassis.

The monitoring port can be used for diagnostics and monitoring. This port is a –20dB tap of the common port. Terminate this port with a 75 Ohm load when not connected.



Please note all unused outputs on a channel (including monitoring outputs) must be terminated with a 75 Ohm load if they are not connected. Please contact Evertz Microsystems for recommended termination suppliers.

Figure 2 illustrates the front panel of the SCRF3-64-1x2 chassis.

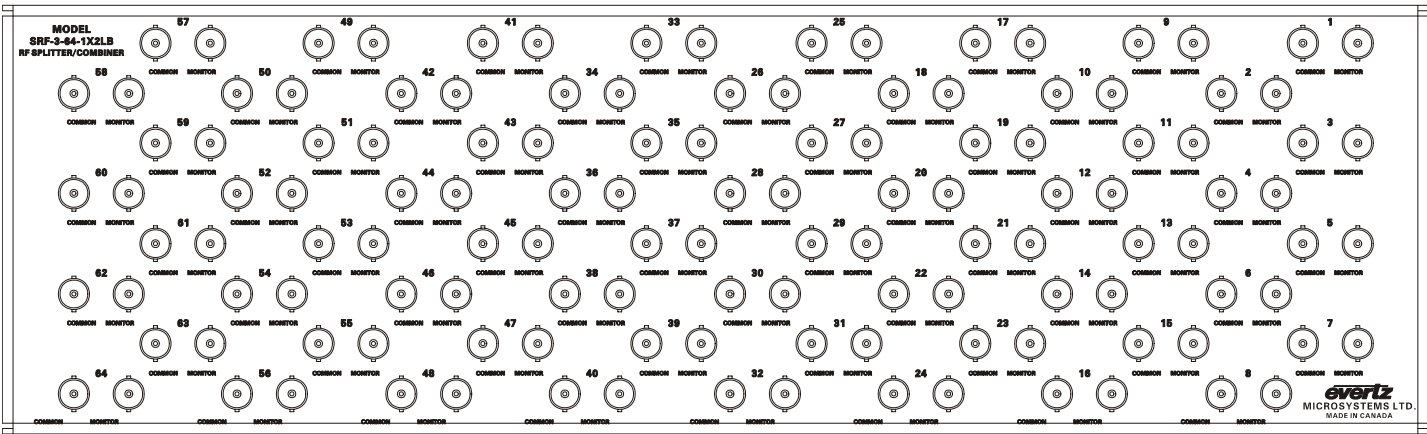


Figure 7: Front Panel of SCRF3-64-1x2 chassis

Figure 3 illustrates the rear panel of the SCRF3-64-1x2 chassis.

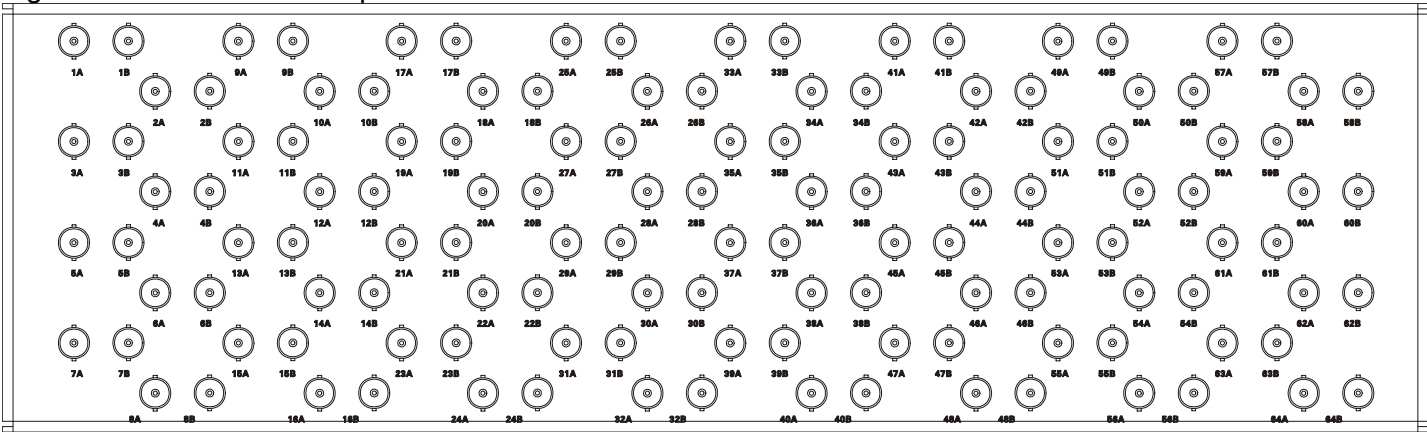


Figure 8: Rear Panel of SCRF3-64-1x2 chassis

3. SPECIFICATIONS

3.1. RF INPUT/OUTPUT

Inputs:	16 (SCRF1-16-1x2) 8 (SCRF1-8-1x4) 4 (SCRF1-4-1x8) 64 (SCRF3-64-1x2) 32 (SCRF3-32-1x4) 16 (SCRF3-16-1x8)
Outputs:	32 (SCRF1-16-1x2) 32 (SCRF1-8-1x4) 32 (SCRF1-4-1x8) 128 (SCRF3-64-1x2) 128 (SCRF3-32-1x4) 128 (SCRF3-16-1x8)
Connectors:	BNC per IEC 60169-8 Amendment 2 (F type optional)
Frequency Range:	250MHz to 3000MHz
Insertion Loss:	4.2dB \pm 0.5dB (1 x 2) 7.5dB \pm 0.75dB (1 x 4) 11dB \pm 1dB (1 x 8)
Return Loss:	> 15 dB (All ports)
Isolation:	> 17 dB (Output to Output on same channel - 550MHz to 3000MHz) > 60 dB (Channel to any other Channel)
Monitoring Output:	-20dB \pm 2dB relative to common port

Note: SCRF passes LNB power and DiSEqC signals.

3.2. PHYSICAL

SCRF1:	1.75" (44.5mm) H x 19" (483mm) W x 5.5" (140mm) D
SCRF3:	5.25" (133mm) H x 19" (483mm) W x 5.5" (140mm) D