SRF Series

Instruction Manual

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INFORMATION TO USERS IN EUROPE

NOTE

CISPR 22 CLASS A DIGITAL DEVICE OR PERIPHERAL

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the European Union EMC directive. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

INFORMATION TO USERS IN THE U.S.A.

NOTE

FCC CLASS A DIGITAL DEVICE OR PERIPHERAL

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Changes or Modifications not expressly approved by Evertz Microsystems Ltd. could void the user's authority to operate the equipment.

Use of unshielded plugs or cables may cause radiation interference. Properly shielded interface cables with the shield connected to the chassis ground of the device must be used.

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REVISION HISTORY

REVISION	DESCRIPTION	DATE
0.0	Preliminary Version	Jun 06
0.1	Updated to SRF specs	Jul 07
0.2	Updated front & rear panels drawings	Feb 09

1. OVERVIEW

The SRF 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 or 1:4. 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) RF routers.

Figure 1-1: Front View of SRF3-64-1x2 Chassis

Figure 1-2: Rear View of SRF3-64-1x2 Chassis

The SRF 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 SRF1 series is housed in a 1RU frame and the SRF3 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 SRF splitter / combiners.

SRF1 SERIES:

SRF1-16-1x2: 16-channel 1x2 splitter / 2x1 combiner
SRF1-8-1x4: 8-channel 1x4 splitter / 4x1 combiner

SRF3 SERIES:

SRF3-64-1x2: 64-channel 1x2 splitter / 2x1 combiner
SRF3-32-1x4: 32-channel 1x4 splitter / 4x1 combiner

1.1. BLOCK DIAGRAMS

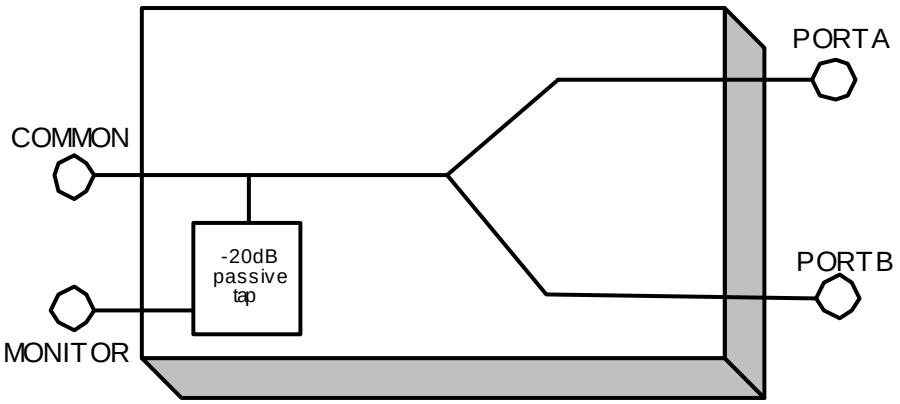

Figure 1-3: 1x2 Splitter / 2x1 Combiner

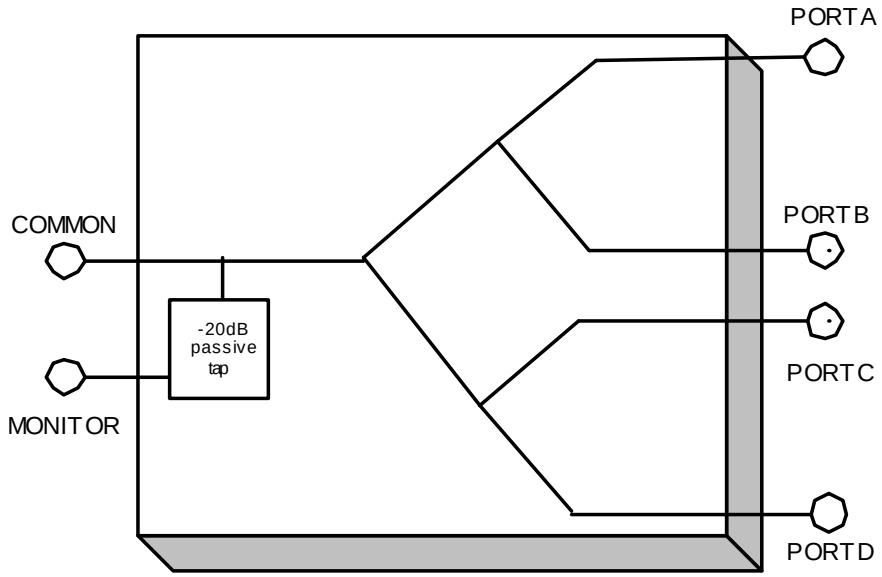

Figure 1-4: 1x4 Splitter / 4x1 Combiner

1.2. TYPICAL APPLICATION DIAGRAM

Figure 1-5 illustrates the use of four SRF3-64-1x2 modules to achieve a 128x128 router using four XRF6 L band routers. On the input side, the SRF functions as a splitter and as a combiner on the output side, allowing non-blocking routing of any input to all outputs.

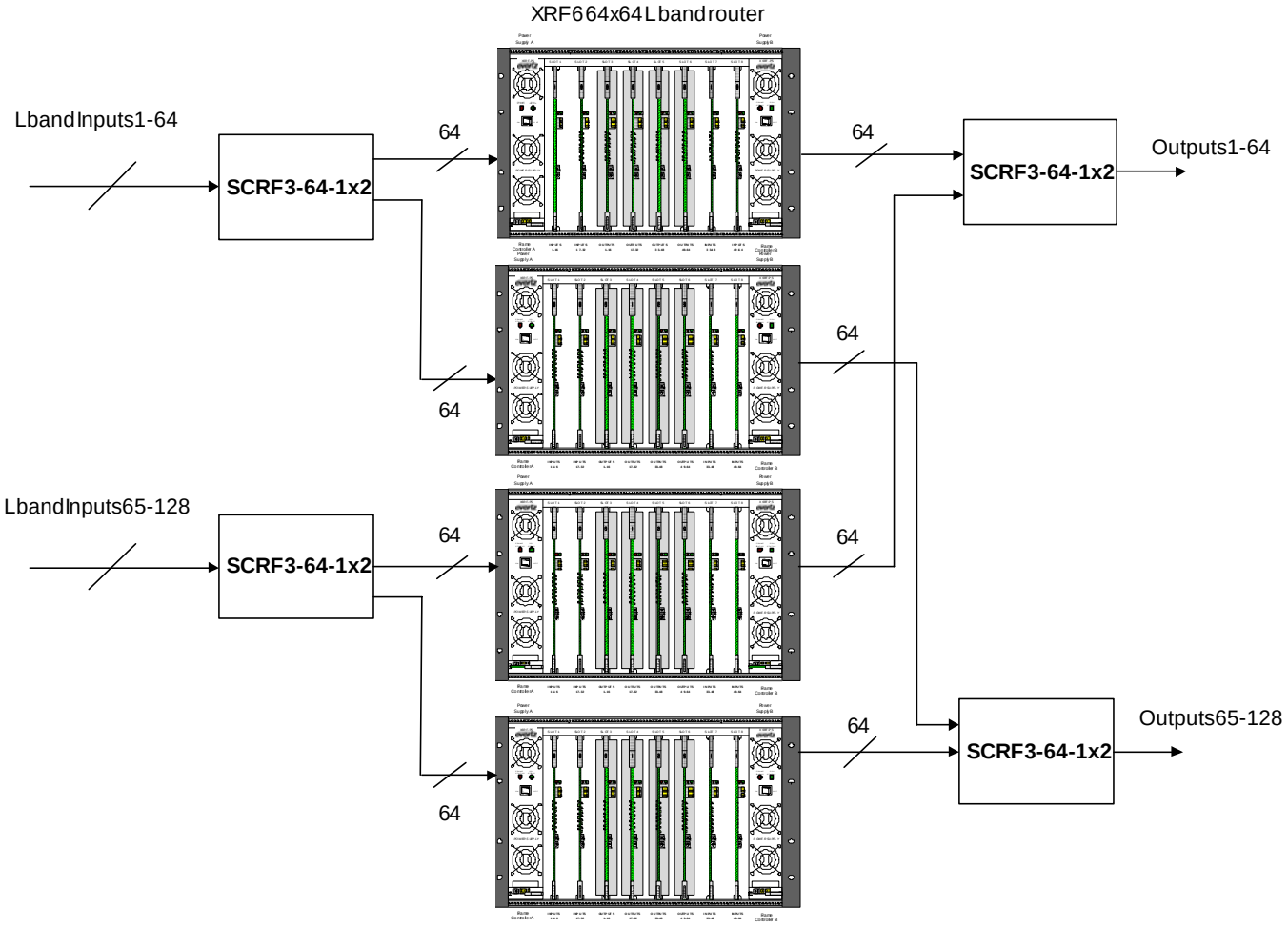

Figure 1-5: 128x128 L Band Matrix Using XRF6 64x64 Routers and SRF3-64-1x2 Modules

2. INSTALLATION

The SRF 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.

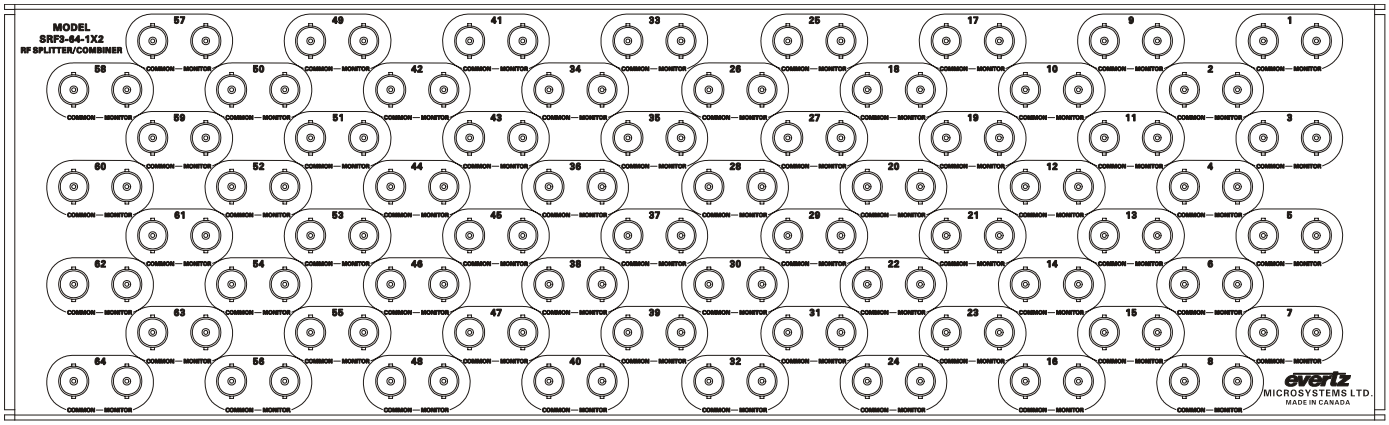

Figure 2-1: Front Panel of SRF3-64-1x2 Chassis

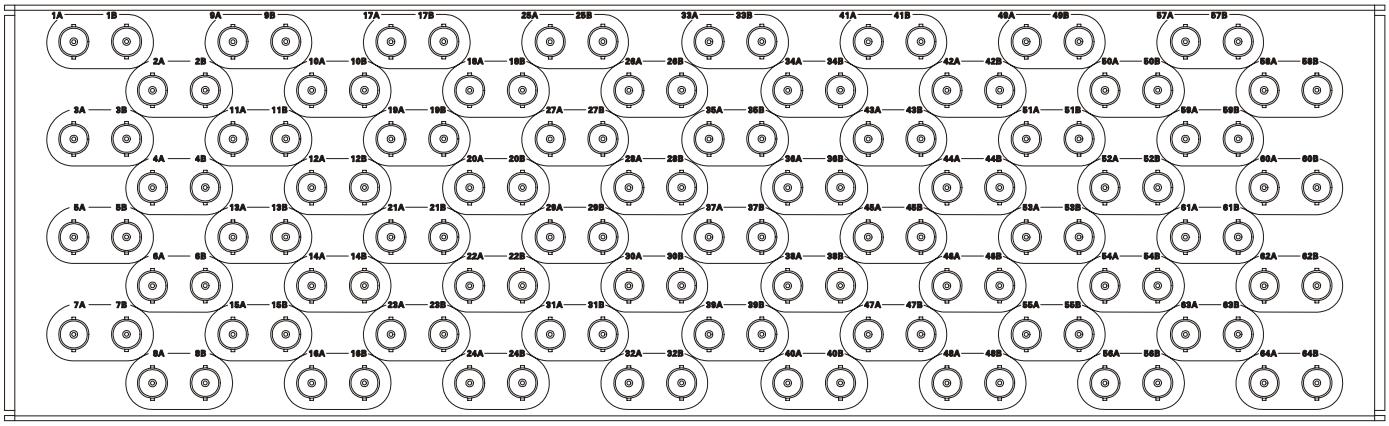

Figure 2-2: Rear Panel of SRF3-64-1x2 Chassis

3. SPECIFICATIONS

3.1. RF INPUT/OUTPUT

Inputs: 16 (SRF1-16-1x2)
8 (SRF1-8-1x4)
64 (SRF3-64-1x2)
32 (SRF3-32-1x4)

Outputs: 32 (SRF1-16-1x2)
32 (SRF1-8-1x4)
128 (SRF3-64-1x2)
128 (SRF3-32-1x4)

Connectors: BNC per IEC 60169-8 Amendment 2 (F type optional)
Frequency Range: 40MHz to 3000MHz
Insertion Loss: 4.2dB ± 0.5dB (1 x 2)
7.5dB ± 0.75dB (1 x 4)

Return Loss (inputs and outputs): > 15 dB (250MHz-3000MHz)
Isolation: > 17 dB (Output to Output on same channel - 550MHz to 3000MHz)
> 60 dB (Channel to any other Channel)

Monitoring Output: -20dB relative to common port

Note: SRF passes LNB power and DiSEqC signals.

3.2. PHYSICAL

SRF1: 1.75" (44.5mm) H x 19" (483mm) W x 5.5" (140mm) D
SRF3: 5.25" (133mm) H x 19" (483mm) W x 5.5" (140mm) D