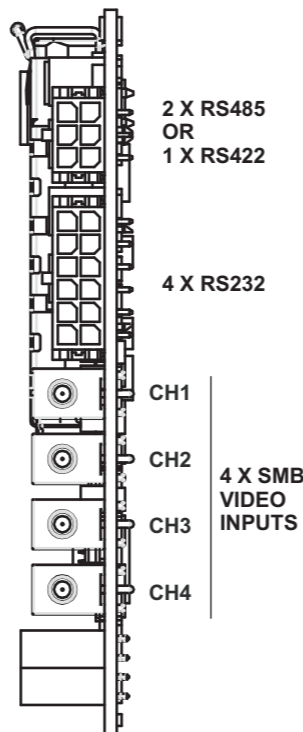
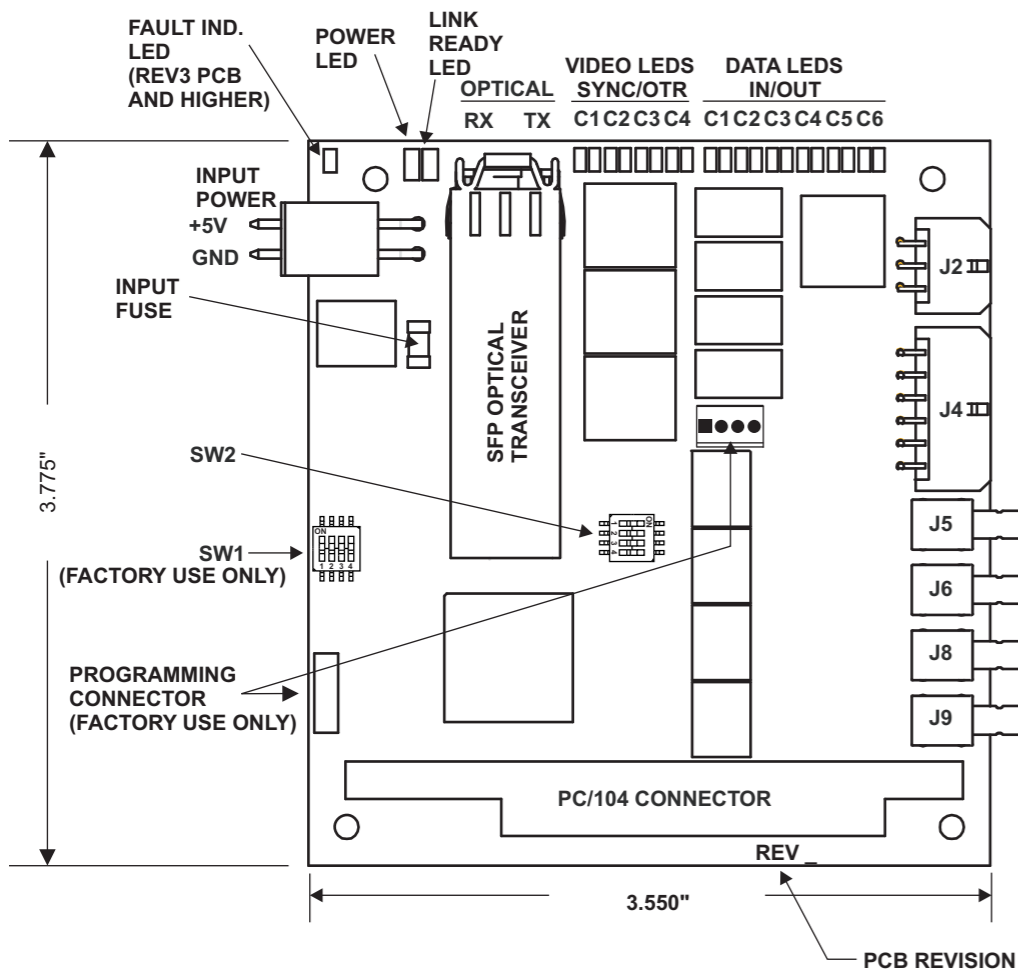


PCB: 907-0335-00  
PCBA: 907-0235-00



ZONE	ISSUE	DESCRIPTION	DATE	APPROVAL
	A	PRODUCTION ISSUE	2009-06	
	B	SEE ECN 29818	2013-09	



2 X RS485 OR 1 X RS422

4 X RS232

CH1  
CH2  
CH3  
CH4

4 X SMB VIDEO INPUTS

RS485/422 (J2) PINOUT

PIN #	RS485	RS422
1	CH1 RX/TX+	RX+
2	CH1 RX/TX-	RX-
3	CH1 REF	RX REF
4	CH2 RX/TX+	TX+
5	CH2 RX/TX-	TX-
6	CH2 REF	TX REF

RS232 (J4) PINOUT

DESCRIPTION	TX	RX	GND
CHANNEL 3	1	2	3
CHANNEL 4	7	8	9
CHANNEL 5	4	5	6
CHANNEL 6	10	11	12

SW2 SETTINGS (VIDEO AND DATA FORMAT)

CHANNEL CONFIG.	SW2:1	SW2:2	SW2:3	SW2:4
ALL COMPOSITE (DEFAULT)	OFF	OFF	X	X
GRB ON 1, 2, 3 COMPOSITE ON 4	ON	OFF	X	X
Y/C ON 1, 2 Y/C ON 3, 4	OFF	ON	X	X
YPrPb ON 1, 2, 3 COMPOSITE ON 4	ON	ON	X	X
CH1 AND CH2 RS485 (NO TIMEOUT)	X	X	OFF	OFF
CH1 RS485 (1mS TIMEOUT)	X	X	ON	OFF
CH1 AND CH2 RS485 (1mS TIMEOUT) (DEFAULT)	X	X	OFF	ON
RS422 MODE (CH1 - RX, CH2 - TX)	X	X	ON	ON

X - DON'T CARE

SW1 SETTINGS (BACKPLANE CONFIGURATION)

CHANNEL CONFIG.	SW1:1	SW1:2	SW1:3	SW1:4
REV 3 PCBs AND HIGHER				
(DEFAULT)	OFF	ON	OFF	OFF
REV 2 PCBs AND OLDER				
(DEFAULT)	OFF	OFF	OFF	OFF

- GENERAL NOTES:
- INPUT POWER MUST BE REGULATED +5VDC (+/- 10%). MATING CONNECTOR IS MOLEX P/N 26-03-4020 WITH CRIMP TERMINALS P/N 08-52-0113. ALL POWER, DIGITAL, AND ANALOG/VIDEO GROUNDS ARE CONNECTED ON BOARD.
  - INPUT FUSE IS LITTELFUSE 2A SLO-BLO, REPLACEABLE SURFACE MOUNT TYPE, P/N R452002
  - ALL 4 VIDEO CHANNELS ARE DEFAULT CONFIGURED FOR NTSC/PAL COMPOSITE SIGNALS. CHANNELS MAY BE SWITCH CONFIGURED TO SUPPORT ONE RGB CHANNEL, TWO Y/C (S-VIDEO) CHANNELS, OR ONE YPrPb. SEE SW2 TABLE.
  - VIDEO SIGNALS ARE INPUT AT THIS REMOTE UNIT AND OUTPUT AT THE CONSOLE UNIT (907-0236-00). DATA SIGNALS ARE BIDIRECTIONAL.
  - A MINIMUM OF 5 dB OPTICAL ATTENUATION IS REQUIRED BETWEEN THE REMOTE AND CONSOLE MODULES TO ENSURE THE SPECIFIED OPTICAL BIT ERROR RATE OF 1E-10.
  - THE LINK LED IS SOLID GREEN WHEN AN OPTICAL SIGNAL IS RECEIVED FROM THE CONSOLE AND OFF WHEN THE SIGNAL IS INVALID. WHEN THE LINK LED IS OFF (INVALID) THE FAULT LED INDICATOR WILL BE SOLID RED.
  - THE VIDEO SYNC LEDS ARE GREEN WHILE THERE IS A VALID VIDEO SYNC SIGNAL PRESENT. WHEN THE AMPLITUDE OF THE VIDEO SIGNAL IS GREATER THAN APPROXIMATELY 1.5Vp-p THE RED OUT OF RANGE (OTR) LED WILL TURN ON. IF THE OTR LED IS LIT THEN THE VIDEO SIGNAL NEEDS TO BE REDUCED IN AMPLITUDE.
  - BOARD DIMENSIONS SHOWN ARE NOMINAL. MODEL 907 USES THE PC/104 FORM FACTOR ONLY.
  - IN ADDITION TO THE SIX ON-BOARD DATA CHANNELS, THERE ARE SIX DATA PORTS AVAILABLE THROUGH THE PC/104 CONNECTOR. THESE SIX DATA PORTS CAN BE USED WITH 907 EXPANSION CARDS TO ADD UP TO 32 SERIAL DATA CHANNELS, 4 ETHERNET CHANNELS, OR 6 AIB PLUG-INS.
  - DATA CONNECTOR J2 REQUIRES MATING CONNECTOR MOLEX 43025-0600 AND CONNECTOR J4 REQUIRES MATING CONNECTOR MOLEX 43025-1200. BOTH MATING CONNECTORS USE CRIMP TERMINALS MOLEX 43030-0007 WITH 20-24 AWG WIRE.
  - THE SIX ON-BOARD DATA CHANNELS EACH HAVE A RED AND GREEN LED FOR DIAGNOSTICS. THE RED LED INDICATES DATA COMING INTO THE BOARD FROM THE DATA CONNECTOR AND THE GREEN LED INDICATES DATA GOING OUT THE DATA CONNECTOR. THE LEDS TURN ON WHEN THE NRZ SIGNAL LEVEL IS TTL LOW OR SPACE STATE (SILKSCREEN C1 = CHANNEL1, C2 = CHANNEL 2, ETC.)
  - WHEN RS485 CHANNELS ARE CONFIGURED FOR 'NO TIMEOUT', EXTERNAL TERMINATIONS SHOULD NOT BE USED. RS485/422 CHANNELS INCLUDE 120 OHM TERMINATORS ON TX AND RX LINES AS WELL AS 475 OHM PULL UP AND 475 OHM PULL DOWN RESISTORS TO 5V AND GROUND.
  - SWITCH SW1 SETTINGS SHOULD BE IN THE DEFAULT CONFIGURATION AT ALL TIMES. DEFAULT SETTINGS FOR SW1 DEPENDS ON PCB REVISION, AS SHOWN IN SW1 TABLE.

TOLERANCES (EXCEPT AS NOTED)		THIS DRAWING IS THE PROPERTY OF FOCAL TECHNOLOGIES CORPORATION AND MAY BE NEITHER COPIED, REPRODUCED, OR OTHERWISE DEALT WITH NOR ITS CONTENTS COMMUNICATED TO OTHERS EXCEPT IN ACCORDANCE WITH WRITTEN INSTRUCTIONS RECEIVED FROM FOCAL TECHNOLOGIES CORPORATION.			
1. DIMENSIONS IN INCHES 2. 3 DECIMAL PLACES +/- 0.005 3. 2 DECIMAL PLACES +/- 0.010 4. FRACTIONS +/- 1/32 5. ANGLES +/- 0.5 DEGREE		DRAWN A CRESS		<b>FOCAL TECHNOLOGIES CORPORATION</b> 77 FRAZEE AVENUE DARTMOUTH, NS CANADA, B3B 1Z4  <b>REMOTE 907+ CONFIGURATION</b>	
ESD SENSITIVE PARTS MAY BE USED. TAKE PRECAUTIONS.		CHECKED			
MATERIAL N/A		APPROVED			
FINISH N/A		DATE 2007-08-15		TITLE	
SCALE NTS		FILENAME 907-2035-00RB.DES		DRAWING NO. 907-2035-00	
		SHEET 1 OF 2		ISSUE B	

## SPECIFICATIONS

PARAMETER	MIN	TYP	MAX	UNITS
<b>ELECTRICAL</b>				
POWER VOLTAGE <sup>1</sup>	4.5	5.0	5.5	VOLTS
POWER CURRENT <sup>1</sup>		0.7	1.0	AMPS
<b>VIDEO</b>				
INPUT LEVEL <sup>2</sup>		1.0	1.2	Vp-p
INPUT IMPEDANCE <sup>3</sup>		75		OHMS
BANDWIDTH			6.0	MHz
DIGITAL RESOLUTION		10		BITS
SIGNAL TO NOISE RATIO	58			dB
DIFFERENTIAL GAIN		1	3	%
DIFFERENTIAL PHASE		1	3	DEGREES
LUMINANCE NONLINEARITY		2	4	%
<b>DATA</b>				
RS485 DATA RATE <sup>6</sup>			2.5	MBAUD
INTERNAL TERMINATION		120		OHMS
DIFF. OUTPUT LEVEL (27OHM)	2.1		5	VOLTS
RS232 DATA RATE			120	KBAUD
RS232 OUTPUT SWING (3KOHM)	±5.0	±5.4		VOLTS
RS232 INPUT VOLTAGE RANGE	-15		+15	VOLTS
<b>OPTICAL</b>				
BAUD RATE		1200		MBAUD
WAVELENGTH <sup>4</sup>	1271		1611	nm
OPTICAL BUDGET <sup>4,5</sup>	24			dB
RANGE	10			Km
<b>ENVIROMENTAL</b>				
TEMPERATURE (OPERATIONAL)	-10		+60	DEG. C
TEMPERATURE (STORAGE)	-40		+85	DEG. C

## SPECIFICATION NOTES:

- INPUT POWER IS PROTECTED WITH A 2A FUSE. THE INPUT ALSO HAS REVERSE POLARITY PROTECTION AND OVER-VOLTAGE PROTECTION. CURRENT DRAW INCLUDES SFP MODULE.
- ABSOLUTE MAXIMUM VIDEO INPUT SHOULD NOT EXCEED 3 Vp-p.
- VIDEO INPUTS ARE AC-COUPLED WITH ESD PROTECTION.
- CONTACT FOCAL FOR OTHER OPTICAL CONFIGURATIONS, SUCH AS CWDM WAVELENGTHS AND HIGHER OPTICAL BUDGETS.
- ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. VIDEO SPECIFICATIONS SHOWN ARE FOR 10-BIT MODE AND OPTICAL POWER SPECIFICATIONS ARE WITH STANDARD (NON-BIDI) OPTICAL TRANSCEIVERS.
- THE MAXIMUM BAUD RATE IS DETERMINED BY HOW MUCH JITTER THE END EQUIPMENT CAN TOLERATE, THE IMPEDANCE OF THE CABLE USED AND THE TIMEOUT SETTING. THE MUX/DEMUX SAMPLE RATE OF THE RS485 CHANNELS IS 15MHz. TO ACHIEVE MAX BAUD RATE THE TWISTED CABLE NEEDS TO HAVE AN IMPEDANCE OF 120 OHMS AND THE TIMEOUT SETTING NEEDS TO BE 1MILLISECOND. WHEN USING ZERO TIMEOUT SETTING THE MAXIMUM BAUD RATE IS 120KBAUD.

## ORDER INFORMATION

PART NUMBER	CARD ID	FIBER TYPE	TX NOMINAL WAVELENGTH (nm)	MIN. OPTICAL BUDGET (dB)	WDM	ACCESS BUSHING	TX TYPE
907-0025-00	907+R-SMD13	SMF	1310	24	NO	LC	DFB
907-0025-03	907+R-SMB13	SMF	1310	20	YES	LC	DFB BIDI
907-0025-27	907+R-SMD27	SMF	1271	24	NO	LC	DFB CWDM
907-0025-47	907+R-SMD47	SMF	1471	24	NO	LC	DFB CWDM
907-0025-51	907+R-SMD51	SMF	1511	24	NO	LC	DFB CWDM
907-0025-55	907+R-SMD55	SMF	1551	24	NO	LC	DFB CWDM
907-0025-59	907+R-SMD59	SMF	1591	24	NO	LC	DFB CWDM

NOTE: BIDI STANDS FOR BIDIRECTIONAL, MEANING WDM IS BUILT INTO THE OPTICAL TRANSCEIVER.



TOLERANCES (EXCEPT AS NOTED)

- DIMENSIONS IN INCHES
- 3 DECIMAL PLACES +/- 0.005
- 2 DECIMAL PLACES +/- 0.010
- FRACTIONS +/- 1/32
- ANGLES +/- 0.5 DEGREE



ESD SENSITIVE PARTS MAY BE USED. TAKE PRECAUTIONS.

MATERIAL

N/A

FINISH

N/A

SCALE

NTS

THIS DRAWING IS THE PROPERTY OF FOCAL TECHNOLOGIES CORPORATION AND MAY BE NEITHER COPIED, REPRODUCED, OR OTHERWISE DEALT WITH NOR ITS CONTENTS COMMUNICATED TO OTHERS EXCEPT IN ACCORDANCE WITH WRITTEN INSTRUCTIONS RECEIVED FROM FOCAL TECHNOLOGIES CORPORATION.

DRAWN A CRESS

CHECKED

APPROVED

DATE 2007-08-15

FILENAME 907-2035-00RB.DES

SHEET 2 OF 2

**FOCAL TECHNOLOGIES CORPORATION**  
77 FRAZEE AVENUE  
DARTMOUTH, NS CANADA, B3B 1Z4

TITLE

**REMOTE 907+ CONFIGURATION**

SIZE

**B**

TYPE

**SK**

DRAWING NO.

**907-2035-00**

ISSUE

**B**